SEQUENCE LISTING

<110> Lee, Se-Jin
     McPherron, Alexandra C.

<120> GROWTH DIFFERENTIATION FACTOR RECEPTORS,
  AGONISTS AND ANTAGONISTS THEREOF, AND METHODS OF USING SAME

<130> JHU1470-2

<150> 09/485,046
<151> 2000-01-31

<150> PCT/US98/15598
<151> 1998-07-28

<150> 60/054,461
<151> 1997-08-01

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<170> FastSEQ for Windows Version 4.0

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Met Gln Lys Leu Gln Leu Cys Val Tyr Ile Tyr Leu Phe Met Leu Ile
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gtt gct ggt cca gtg gat cta aat gag aac agt gag caa aaa gaa aat   154
Val Ala Gly Pro Val Asp Leu Asn Glu Asn Ser Glu Gln Lys Glu Asn
                20   25   30

gtg gaa aaa gag ggg ctg tgt aat gca tgt act tgg aga caa aac act   202
Val Glu Lys Glu Gly Leu Cys Asn Ala Cys Thr Trp Arg Gln Asn Thr
         35   40   45

aaa tct tca aga ata gaa gcc att aag ata caa atc ctc agt aaa ctt   250
Lys Ser Ser Arg Ile Glu Ala Ile Lys Ile Gln Ile Leu Ser Lys Leu
     50   55   60

cgt ctg gaa aca gct cct aac atc agc aaa gat gtt ata aga caa ctt   298
Arg Leu Glu Thr Ala Pro Asn Ile Ser Lys Asp Val Ile Arg Gln Leu
65   70   75   80

tta ccc aaa gct cct cca ctc cgg gaa ctg att gat cag tat gat gtc   346
Leu Pro Lys Ala Pro Pro Leu Arg Glu Leu Ile Asp Gln Tyr Asp Val
                85   90   95

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cag agg gat gac agc agc gat ggc tct ttg gaa gat gac gat tat cac      394
Gln Arg Asp Asp Ser Ser Asp Gly Ser Leu Glu Asp Asp Asp Tyr His
            100                 105                 110

gct aca acg gaa aca atc att acc atg cct aca gag tct gat ttt cta      442
Ala Thr Thr Glu Thr Ile Ile Thr Met Pro Thr Glu Ser Asp Phe Leu
            115                 120                 125

atg caa gtg gat gga aaa ccc aaa tgt tgc ttc ttt aaa ttt agc tct      490
Met Gln Val Asp Gly Lys Pro Lys Cys Cys Phe Phe Lys Phe Ser Ser
            130                 135                 140

aaa ata caa tac aat aaa gta gta aag gcc caa cta tgg ata tat ttg      538
Lys Ile Gln Tyr Asn Lys Val Val Lys Ala Gln Leu Trp Ile Tyr Leu
145                 150                 155                 160

aga ccc gtc gag act cct aca aca gtg ttt gtg caa atc ctg aga ctc      586
Arg Pro Val Glu Thr Pro Thr Thr Val Phe Val Gln Ile Leu Arg Leu
                165                 170                 175

atc aaa cct atg aaa gac ggt aca agg tat act gga atc cga tct ctg      634
Ile Lys Pro Met Lys Asp Gly Thr Arg Tyr Thr Gly Ile Arg Ser Leu
                180                 185                 190

aaa ctt gac atg aac cca ggc act ggt att tgg cag agc att gat gtg      682
Lys Leu Asp Met Asn Pro Gly Thr Gly Ile Trp Gln Ser Ile Asp Val
                195                 200                 205

aag aca gtg ttg caa aat tgg ctc aaa caa cct gaa tcc aac tta ggc      730
Lys Thr Val Leu Gln Asn Trp Leu Lys Gln Pro Glu Ser Asn Leu Gly
            210                 215                 220

att gaa ata aaa gct tta gat gag aat ggt cat gat ctt gct gta acc      778
Ile Glu Ile Lys Ala Leu Asp Glu Asn Gly His Asp Leu Ala Val Thr
225                 230                 235                 240

ttc cca gga cca gga gaa gat ggg ctg aat ccg ttt tta gag gtc aag      826
Phe Pro Gly Pro Gly Glu Asp Gly Leu Asn Pro Phe Leu Glu Val Lys
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gta aca gac aca cca aaa aga tcc aga agg gat ttt ggt ctt gac tgt      874
Val Thr Asp Thr Pro Lys Arg Ser Arg Arg Asp Phe Gly Leu Asp Cys
            260                 265                 270

gat gag cac tca aca gaa tca cga tgc tgt cgt tac cct cta act gtg      922
Asp Glu His Ser Thr Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr Val
            275                 280                 285

gat ttt gaa gct ttt gga tgg gat tgg att atc gct cct aaa aga tat      970
Asp Phe Glu Ala Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg Tyr
            290                 295                 300

aag gcc aat tac tgc tct gga gag tgt gaa ttt gta ttt tta caa aaa      1018
Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu Phe Val Phe Leu Gln Lys
305                 310                 315                 320

tat cct cat act cat ctg gta cac caa gca aac ccc aga ggt tca gca      1066
Tyr Pro His Thr His Leu Val His Gln Ala Asn Pro Arg Gly Ser Ala
                325                 330                 335
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ggc cct tgc tgt act ccc aca aag atg tct cca att aat atg cta tat        1114
Gly Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu Tyr
            340             345             350

ttt aat ggc aaa gaa caa ata ata tat ggg aaa att cca gcg atg gta        1162
Phe Asn Gly Lys Glu Gln Ile Ile Tyr Gly Lys Ile Pro Ala Met Val
            355             360             365

gta gac cgc tgt ggg tgc tca tgagatttat attaagcgtt cataacttcc          1213
Val Asp Arg Cys Gly Cys Ser
            370             375

taaaacatgg aaggttttcc cctcaacaat tttgaagctg tgaaattaag taccacaggc      1273
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gggaatatat gcaatggttg gcatttaacc atccaaacaa atcatacaag aaagttttat      1393
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aataaactga tgctatctca acaataactg ttactttat tttataattt gataatgaat       2593
atatttctgc atttatttac ttctgttttg taaattggga ttttgttaat caaatttatt      2653
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<213> Homo sapiens

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            20              25              30
Val Glu Lys Glu Gly Leu Cys Asn Ala Cys Thr Trp Arg Gln Asn Thr
            35              40              45
Lys Ser Ser Arg Ile Glu Ala Ile Lys Ile Gln Ile Leu Ser Lys Leu
            50              55              60
Arg Leu Glu Thr Ala Pro Asn Ile Ser Lys Asp Val Ile Arg Gln Leu
65              70              75              80
Leu Pro Lys Ala Pro Pro Leu Arg Glu Leu Ile Asp Gln Tyr Asp Val
            85              90              95
Gln Arg Asp Asp Ser Ser Asp Gly Ser Leu Glu Asp Asp Tyr His
            100             105             110
Ala Thr Thr Glu Thr Ile Ile Thr Met Pro Thr Glu Ser Asp Phe Leu
```

```
            115                      120                      125
Met Gln Val Asp Gly Lys Pro Lys Cys Cys Phe Phe Lys Phe Ser Ser
            130                      135                      140
Lys Ile Gln Tyr Asn Lys Val Val Lys Ala Gln Leu Trp Ile Tyr Leu
145                      150                      155                      160
Arg Pro Val Glu Thr Pro Thr Thr Val Phe Val Gln Ile Leu Arg Leu
                    165                      170                      175
Ile Lys Pro Met Lys Asp Gly Thr Arg Tyr Thr Gly Ile Arg Ser Leu
                    180                      185                      190
Lys Leu Asp Met Asn Pro Gly Thr Gly Ile Trp Gln Ser Ile Asp Val
                    195                      200                      205
Lys Thr Val Leu Gln Asn Trp Leu Lys Gln Pro Glu Ser Asn Leu Gly
            210                      215                      220
Ile Glu Ile Lys Ala Leu Asp Glu Asn Gly His Asp Leu Ala Val Thr
225                      230                      235                      240
Phe Pro Gly Pro Gly Glu Asp Gly Leu Asn Pro Phe Leu Glu Val Lys
                    245                      250                      255
Val Thr Asp Thr Pro Lys Arg Ser Arg Arg Asp Phe Gly Leu Asp Cys
                    260                      265                      270
Asp Glu His Ser Thr Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr Val
            275                      280                      285
Asp Phe Glu Ala Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg Tyr
            290                      295                      300
Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu Phe Val Phe Leu Gln Lys
305                      310                      315                      320
Tyr Pro His Thr His Leu Val His Gln Ala Asn Pro Arg Gly Ser Ala
                    325                      330                      335
Gly Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu Tyr
                    340                      345                      350
Phe Asn Gly Lys Glu Gln Ile Ile Tyr Gly Lys Ile Pro Ala Met Val
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Val Asp Arg Cys Gly Cys Ser
            370                      375
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<220>
<221> CDS
<222> (104)...(1231)

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                                                   Met Met Gln Lys
                                                   1

ctg caa atg tat gtt tat att tac ctg ttc atg ctg att gct gct ggc   163
Leu Gln Met Tyr Val Tyr Ile Tyr Leu Phe Met Leu Ile Ala Ala Gly
5                        10                       15                  20

cca gtg gat cta aat gag ggc agt gag aga gaa gaa aat gtg gaa aaa   211
Pro Val Asp Leu Asn Glu Gly Ser Glu Arg Glu Glu Asn Val Glu Lys
                        25                       30                  35

gag ggg ctg tgt aat gca tgt gcg tgg aga caa aac acg agg tac tcc   259
Glu Gly Leu Cys Asn Ala Cys Ala Trp Arg Gln Asn Thr Arg Tyr Ser
            40                       45                       50
```

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aga ata gaa gcc ata aaa att caa atc ctc agt aag ctg cgc ctg gaa      307
Arg Ile Glu Ala Ile Lys Ile Gln Ile Leu Ser Lys Leu Arg Leu Glu
        55                  60                  65

aca gct cct aac atc agc aaa gat gct ata aga caa ctt ctg cca aga      355
Thr Ala Pro Asn Ile Ser Lys Asp Ala Ile Arg Gln Leu Leu Pro Arg
        70                  75                  80

gcg cct cca ctc cgg gaa ctg atc gat cag tac gac gtc cag agg gat      403
Ala Pro Pro Leu Arg Glu Leu Ile Asp Gln Tyr Asp Val Gln Arg Asp
85                  90                  95                 100

gac agc agt gat ggc tct ttg gaa gat gac gat tat cac gct acc acg      451
Asp Ser Ser Asp Gly Ser Leu Glu Asp Asp Asp Tyr His Ala Thr Thr
                    105                 110                 115

gaa aca atc att acc atg cct aca gag tct gac ttt cta atg caa gcg      499
Glu Thr Ile Ile Thr Met Pro Thr Glu Ser Asp Phe Leu Met Gln Ala
                120                 125                 130

gat ggc aag ccc aaa tgt tgc ttt ttt aaa ttt agc tct aaa ata cag      547
Asp Gly Lys Pro Lys Cys Cys Phe Phe Lys Phe Ser Ser Lys Ile Gln
            135                 140                 145

tac aac aaa gta gta aaa gcc caa ctg tgg ata tat ctc aga ccc gtc      595
Tyr Asn Lys Val Val Lys Ala Gln Leu Trp Ile Tyr Leu Arg Pro Val
        150                 155                 160

aag act cct aca aca gtg ttt gtg caa atc ctg aga ctc atc aaa ccc      643
Lys Thr Pro Thr Thr Val Phe Val Gln Ile Leu Arg Leu Ile Lys Pro
165                 170                 175                 180

atg aaa gac ggt aca agg tat act gga atc cga tct ctg aaa ctt gac      691
Met Lys Asp Gly Thr Arg Tyr Thr Gly Ile Arg Ser Leu Lys Leu Asp
                    185                 190                 195

atg agc cca ggc act ggt att tgg cag agt att gat gtg aag aca gtg      739
Met Ser Pro Gly Thr Gly Ile Trp Gln Ser Ile Asp Val Lys Thr Val
                200                 205                 210

ttg caa aat tgg ctc aaa cag cct gaa tcc aac tta ggc att gaa atc      787
Leu Gln Asn Trp Leu Lys Gln Pro Glu Ser Asn Leu Gly Ile Glu Ile
            215                 220                 225

aaa gct ttg gat gag aat ggc cat gat ctt gct gta acc ttc cca gga      835
Lys Ala Leu Asp Glu Asn Gly His Asp Leu Ala Val Thr Phe Pro Gly
        230                 235                 240

cca gga gaa gat ggg ctg aat ccc ttt tta gaa gtc aag gtg aca gac      883
Pro Gly Glu Asp Gly Leu Asn Pro Phe Leu Glu Val Lys Val Thr Asp
245                 250                 255                 260

aca ccc aag agg tcc cgg aga gac ttt ggg ctt gac tgc gat gag cac      931
Thr Pro Lys Arg Ser Arg Arg Asp Phe Gly Leu Asp Cys Asp Glu His
                265                 270                 275

tcc acg gaa tcc cgg tgc tgc cgc tac ccc ctc acg gtc gat ttt gaa      979
Ser Thr Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr Val Asp Phe Glu
                280                 285                 290
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gcc ttt gga tgg gac tgg att atc gca ccc aaa aga tat aag gcc aat      1027
Ala Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg Tyr Lys Ala Asn
        295             300                 305

tac tgc tca gga gag tgt gaa ttt gtg ttt tta caa aaa tat ccg cat      1075
Tyr Cys Ser Gly Glu Cys Glu Phe Val Phe Leu Gln Lys Tyr Pro His
    310                 315                 320

act cat ctt gtg cac caa gca aac ccc aga ggc tca gca ggc cct tgc      1123
Thr His Leu Val His Gln Ala Asn Pro Arg Gly Ser Ala Gly Pro Cys
325                 330                 335                 340

tgc act ccg aca aaa atg tct ccc att aat atg cta tat ttt aat ggc      1171
Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu Tyr Phe Asn Gly
                345                 350                 355

aaa gaa caa ata ata tat ggg aaa att cca gcc atg gta gta gac cgc      1219
Lys Glu Gln Ile Ile Tyr Gly Lys Ile Pro Ala Met Val Val Asp Arg
                360                 365                 370

tgt ggg tgc tca tgagctttgc attaggttag aaacttccca agtcatggaa         1271
Cys Gly Cys Ser
                375

ggtcttcccc tcaatttcga aactgtgaat tcaagcacca caggctgtag gccttgagta   1331
tgctctagta acgtaagcac aagctacagt gtatgaacta aaagagagaa tagatgcaat   1391
ggttggcatt caaccaccaa aataaaccat actataggat gttgtatgat ttccagagtt   1451
tttgaaatag atggagatca aattacattt atgtccatat atgtatatta caactacaat   1511
ctaggcaagg aagtgagagc acatcttgtg gtctgctgag ttaggagggt atgattaaaa   1571
ggtaaagtct tatttcctaa cagtttcact taatatttac agaagaatct atatgtagcc   1631
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cacacacagc actaagtgtt caatgcattt tctttaagga aagaagaatc ttttttttcta  1931
gaggtcaact ttcagtcaac tctagcacag cgggagtgac tgctgcatct taaaaggcag   1991
ccaaacagta ttcattttt aatctaaatt tcaaaatcac tgtctgcctt tatcacatgg     2051
caattttgtg gtaaaataat ggaaatgact ggttctatca atattgtata aaagactctg   2111
aaacaattac atttatataa tatgtataca atattgtttt gtaaataagt gtctcctttt   2171
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ttttacatta tcaacttatg gtttcatggt ggctgtatct atgaatgtgg ctcccagtca   2411
aatttcaatg ccccaccatt ttaaaaatta caagcattac taaacatacc aacatgtatc   2471
taaagaaata caaatatggt atctcaataa cagctacttt tttattttat aatttgacaa   2531
tgaatacatt tcttttattt acttcagttt tataaattgg aactttgttt atcaaatgta   2591
ttgtactcat agctaaatga aattatttct tacataaaaa tgtgtagaaa ctataaatta   2651
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<213> Mus musculus

<400> 4

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            20                  25                  30
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Asn Val Glu Lys Glu Gly Leu Cys Asn Ala Cys Ala Trp Arg Gln Asn
        35              40              45
Thr Arg Tyr Ser Arg Ile Glu Ala Ile Lys Ile Gln Ile Leu Ser Lys
        50              55              60
Leu Arg Leu Glu Thr Ala Pro Asn Ile Ser Lys Asp Ala Ile Arg Gln
65              70              75              80
Leu Leu Pro Arg Ala Pro Pro Leu Arg Glu Leu Ile Asp Gln Tyr Asp
            85              90              95
Val Gln Arg Asp Asp Ser Ser Asp Gly Ser Leu Glu Asp Asp Asp Tyr
        100             105             110
His Ala Thr Thr Glu Thr Ile Ile Thr Met Pro Thr Glu Ser Asp Phe
        115             120             125
Leu Met Gln Ala Asp Gly Lys Pro Lys Cys Cys Phe Phe Lys Phe Ser
        130             135             140
Ser Lys Ile Gln Tyr Asn Lys Val Val Lys Ala Gln Leu Trp Ile Tyr
145             150             155             160
Leu Arg Pro Val Lys Thr Pro Thr Thr Val Phe Val Gln Ile Leu Arg
            165             170             175
Leu Ile Lys Pro Met Lys Asp Gly Thr Arg Tyr Thr Gly Ile Arg Ser
            180             185             190
Leu Lys Leu Asp Met Ser Pro Gly Thr Gly Ile Trp Gln Ser Ile Asp
        195             200             205
Val Lys Thr Val Leu Gln Asn Trp Leu Lys Gln Pro Glu Ser Asn Leu
        210             215             220
Gly Ile Glu Ile Lys Ala Leu Asp Glu Asn Gly His Asp Leu Ala Val
225             230             235             240
Thr Phe Pro Gly Pro Gly Glu Asp Gly Leu Asn Pro Phe Leu Glu Val
            245             250             255
Lys Val Thr Asp Thr Pro Lys Arg Ser Arg Arg Asp Phe Gly Leu Asp
            260             265             270
Cys Asp Glu His Ser Thr Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr
        275             280             285
Val Asp Phe Glu Ala Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg
        290             295             300
Tyr Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu Phe Val Phe Leu Gln
305             310             315             320
Lys Tyr Pro His Thr His Leu Val His Gln Ala Asn Pro Arg Gly Ser
            325             330             335
Ala Gly Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu
            340             345             350
Tyr Phe Asn Gly Lys Glu Gln Ile Ile Tyr Gly Lys Ile Pro Ala Met
            355             360             365
Val Val Asp Arg Cys Gly Cys Ser
        370             375
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<212> DNA
<213> Rattus norvegicus

<220>
<221> CDS
<222> (1)...(1128)

<400> 5
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Met Ile Gln Lys Pro Gln Met Tyr Val Tyr Ile Tyr Leu Phe Val Leu
1               5               10              15

att gct gct ggc cca gtg gat cta aat gag gac agt gag aga gag gcg        96
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```
Ile Ala Ala Gly Pro Val Asp Leu Asn Glu Asp Ser Glu Arg Glu Ala
             20                  25                  30

aat gtg gaa aaa gag ggg ctg tgt aat gcg tgt gcg tgg aga caa aac      144
Asn Val Glu Lys Glu Gly Leu Cys Asn Ala Cys Ala Trp Arg Gln Asn
         35                  40                  45

aca agg tac tcc aga ata gaa gcc ata aaa att caa atc ctc agt aaa      192
Thr Arg Tyr Ser Arg Ile Glu Ala Ile Lys Ile Gln Ile Leu Ser Lys
         50                  55                  60

ctc cgc ctg gaa aca gcg cct aac atc agc aaa gat gct ata aga caa      240
Leu Arg Leu Glu Thr Ala Pro Asn Ile Ser Lys Asp Ala Ile Arg Gln
65              70                  75                  80

ctt ctg ccc aga gcg cct cca ctc cgg gaa ctg atc gat cag tac gac      288
Leu Leu Pro Arg Ala Pro Pro Leu Arg Glu Leu Ile Asp Gln Tyr Asp
                 85                  90                  95

gtc cag agg gat gac agc agt gac ggc tct ttg gaa gat gac gat tat      336
Val Gln Arg Asp Asp Ser Ser Asp Gly Ser Leu Glu Asp Asp Asp Tyr
             100                 105                 110

cac gct acc acg gaa aca atc att acc atg cct acc gag tct gac ttt      384
His Ala Thr Thr Glu Thr Ile Ile Thr Met Pro Thr Glu Ser Asp Phe
         115                 120                 125

cta atg caa gcg gat gga aag ccc aaa tgt tgc ttt ttt aaa ttt agc      432
Leu Met Gln Ala Asp Gly Lys Pro Lys Cys Cys Phe Phe Lys Phe Ser
         130                 135                 140

tct aaa ata cag tac aac aaa gtg gta aag gcc cag ctg tgg ata tat      480
Ser Lys Ile Gln Tyr Asn Lys Val Val Lys Ala Gln Leu Trp Ile Tyr
145                 150                 155                 160

ctg aga gcc gtc aag act cct aca aca gtg ttt gtg caa atc ctg aga      528
Leu Arg Ala Val Lys Thr Pro Thr Thr Val Phe Val Gln Ile Leu Arg
                 165                 170                 175

ctc atc aaa ccc atg aaa gac ggt aca agg tat acc gga atc cga tct      576
Leu Ile Lys Pro Met Lys Asp Gly Thr Arg Tyr Thr Gly Ile Arg Ser
                 180                 185                 190

ctg aaa ctt gac atg agc cca ggc act ggt att tgg cag agt att gat      624
Leu Lys Leu Asp Met Ser Pro Gly Thr Gly Ile Trp Gln Ser Ile Asp
                 195                 200                 205

gtg aag aca gtg ttg caa aat tgg ctc aaa cag cct gaa tcc aac tta      672
Val Lys Thr Val Leu Gln Asn Trp Leu Lys Gln Pro Glu Ser Asn Leu
         210                 215                 220

ggc att gaa atc aaa gct ttg gat gag aat ggg cat gat ctt gct gta      720
Gly Ile Glu Ile Lys Ala Leu Asp Glu Asn Gly His Asp Leu Ala Val
225                 230                 235                 240

acc ttc cca gga cca gga gaa gat ggg ctg aat ccc ttt tta gaa gtc      768
Thr Phe Pro Gly Pro Gly Glu Asp Gly Leu Asn Pro Phe Leu Glu Val
                 245                 250                 255

aaa gta aca gac aca ccc aag agg tcc cgg aga gac ttt ggg ctt gac      816
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Lys Val Thr Asp Thr Pro Lys Arg Ser Arg Arg Asp Phe Gly Leu Asp
            260                 265             270

tgc gat gaa cac tcc acg gaa tcg cgg tgc tgt cgc tac ccc ctc acg      864
Cys Asp Glu His Ser Thr Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr
            275                 280             285

gtc gat ttc gaa gcc ttt gga tgg gac tgg att att gca ccc aaa aga      912
Val Asp Phe Glu Ala Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg
            290                 295             300

tat aag gct aat tac tgc tct gga gag tgt gaa ttt gtg ttc tta caa      960
Tyr Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu Phe Val Phe Leu Gln
305                 310                 315                 320

aaa tat ccg cat act cat ctt gtg cac caa gca aac ccc aga ggc tcg     1008
Lys Tyr Pro His Thr His Leu Val His Gln Ala Asn Pro Arg Gly Ser
                325                 330                 335

gca ggc cct tgc tgc acg cca aca aaa atg tct ccc att aat atg cta     1056
Ala Gly Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu
                340                 345                 350

tat ttt aat ggc aaa gaa caa ata ata tat ggg aaa att cca gcc atg     1104
Tyr Phe Asn Gly Lys Glu Gln Ile Ile Tyr Gly Lys Ile Pro Ala Met
                355                 360                 365

gta gta gac cgg tgt ggg tgc tcg tga                                 1131
Val Val Asp Arg Cys Gly Cys Ser
        370                 375


<210> 6
<211> 376
<212> PRT
<213> Rattus norvegicus

<400> 6
Met Ile Gln Lys Pro Gln Met Tyr Val Tyr Ile Tyr Leu Phe Val Leu
1               5                   10                  15
Ile Ala Ala Gly Pro Val Asp Leu Asn Glu Asp Ser Glu Arg Glu Ala
            20                  25                  30
Asn Val Glu Lys Glu Gly Leu Cys Asn Ala Cys Ala Trp Arg Gln Asn
            35                  40                  45
Thr Arg Tyr Ser Arg Ile Glu Ala Ile Lys Ile Gln Ile Leu Ser Lys
        50                  55                  60
Leu Arg Leu Glu Thr Ala Pro Asn Ile Ser Lys Asp Ala Ile Arg Gln
65                  70                  75                  80
Leu Leu Pro Arg Ala Pro Pro Leu Arg Glu Leu Ile Asp Gln Tyr Asp
                85                  90                  95
Val Gln Arg Asp Asp Ser Ser Asp Gly Ser Leu Glu Asp Asp Asp Tyr
                100                 105                 110
His Ala Thr Thr Glu Thr Ile Ile Thr Met Pro Thr Glu Ser Asp Phe
                115                 120                 125
Leu Met Gln Ala Asp Gly Lys Pro Lys Cys Cys Phe Phe Lys Phe Ser
            130                 135                 140
Ser Lys Ile Gln Tyr Asn Lys Val Val Lys Ala Gln Leu Trp Ile Tyr
145                 150                 155                 160
Leu Arg Ala Val Lys Thr Pro Thr Thr Val Phe Val Gln Ile Leu Arg
                165                 170                 175
```

```
Leu Ile Lys Pro Met Lys Asp Gly Thr Arg Tyr Thr Gly Ile Arg Ser
            180             185             190
Leu Lys Leu Asp Met Ser Pro Gly Thr Gly Ile Trp Gln Ser Ile Asp
            195             200             205
Val Lys Thr Val Leu Gln Asn Trp Leu Lys Gln Pro Glu Ser Asn Leu
            210             215             220
Gly Ile Glu Ile Lys Ala Leu Asp Glu Asn Gly His Asp Leu Ala Val
225             230             235             240
Thr Phe Pro Gly Pro Gly Glu Asp Gly Leu Asn Pro Phe Leu Glu Val
            245             250             255
Lys Val Thr Asp Thr Pro Lys Arg Ser Arg Arg Asp Phe Gly Leu Asp
            260             265             270
Cys Asp Glu His Ser Thr Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr
            275             280             285
Val Asp Phe Glu Ala Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg
            290             295             300
Tyr Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu Phe Val Phe Leu Gln
305             310             315             320
Lys Tyr Pro His Thr His Leu Val His Gln Ala Asn Pro Arg Gly Ser
            325             330             335
Ala Gly Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu
            340             345             350
Tyr Phe Asn Gly Lys Glu Gln Ile Ile Tyr Gly Lys Ile Pro Ala Met
            355             360             365
Val Val Asp Arg Cys Gly Cys Ser
370             375
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<210> 7
<211> 1128
<212> DNA
<213> Gallus gallus

<220>
<221> CDS
<222> (1)...(1125)

<400> 7

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atg caa aag ctg gca gtc tat gtt tat att tac ctg ttc atg cag atc      48
Met Gln Lys Leu Ala Val Tyr Val Tyr Ile Tyr Leu Phe Met Gln Ile
1               5                   10                  15

gcg gtt gat ccg gtg gct ctg gat ggc agt agt cag ccc aca gag aac      96
Ala Val Asp Pro Val Ala Leu Asp Gly Ser Ser Gln Pro Thr Glu Asn
            20                  25                  30

gct gaa aaa gac gga ctg tgc aat gct tgt acg tgg aga cag aat aca     144
Ala Glu Lys Asp Gly Leu Cys Asn Ala Cys Thr Trp Arg Gln Asn Thr
        35                  40                  45

aaa tcc tcc aga ata gaa gcc ata aaa att caa atc ctc agc aaa ctg     192
Lys Ser Ser Arg Ile Glu Ala Ile Lys Ile Gln Ile Leu Ser Lys Leu
        50                  55                  60

cgc ctg gaa caa gca cct aac att agc agg gac gtt att aag cag ctt     240
Arg Leu Glu Gln Ala Pro Asn Ile Ser Arg Asp Val Ile Lys Gln Leu
65                  70                  75                  80

tta ccc aaa gct cct cca ctg cag gaa ctg att gat cag tat gat gtc     288
Leu Pro Lys Ala Pro Pro Leu Gln Glu Leu Ile Asp Gln Tyr Asp Val
                85                  90                  95
```

cag agg gac gac agt agc gat ggc tct ttg gaa gac gat gac tat cat   336
Gln Arg Asp Asp Ser Ser Asp Gly Ser Leu Glu Asp Asp Asp Tyr His
            100   105   110

gcc aca acc gag acg att atc aca atg cct acg gag tct gat ttt ctt   384
Ala Thr Thr Glu Thr Ile Ile Thr Met Pro Thr Glu Ser Asp Phe Leu
            115   120   125

gta caa atg gag gga aaa cca aaa tgt tgc ttc ttt aag ttt agc tct   432
Val Gln Met Glu Gly Lys Pro Lys Cys Cys Phe Phe Lys Phe Ser Ser
            130   135   140

aaa ata caa tat aac aaa gta gta aag gca caa tta tgg ata tac ttg   480
Lys Ile Gln Tyr Asn Lys Val Val Lys Ala Gln Leu Trp Ile Tyr Leu
145   150   155   160

agg caa gtc caa aaa cct aca acg gtg ttt gtg cag atc ctg aga ctc   528
Arg Gln Val Gln Lys Pro Thr Thr Val Phe Val Gln Ile Leu Arg Leu
            165   170   175

att aag ccc atg aaa gac ggt aca aga tat act gga att cga tct ttg   576
Ile Lys Pro Met Lys Asp Gly Thr Arg Tyr Thr Gly Ile Arg Ser Leu
            180   185   190

aaa ctt gac atg aac cca ggc act ggt atc tgg cag agt att gat gtg   624
Lys Leu Asp Met Asn Pro Gly Thr Gly Ile Trp Gln Ser Ile Asp Val
            195   200   205

aag aca gtg ctg caa aat tgg ctc aaa cag cct gaa tcc aat tta ggc   672
Lys Thr Val Leu Gln Asn Trp Leu Lys Gln Pro Glu Ser Asn Leu Gly
            210   215   220

atc gaa ata aaa gct ttt gat gag act gga cga gat ctt gct gtc aca   720
Ile Glu Ile Lys Ala Phe Asp Glu Thr Gly Arg Asp Leu Ala Val Thr
225   230   235   240

ttc cca gga cca gga gaa gat gga ttg aac cca ttt tta gag gtc aga   768
Phe Pro Gly Pro Gly Glu Asp Gly Leu Asn Pro Phe Leu Glu Val Arg
            245   250   255

gtt aca gac aca ccg aaa cgg tcc cgc aga gat ttt ggc ctt gac tgt   816
Val Thr Asp Thr Pro Lys Arg Ser Arg Arg Asp Phe Gly Leu Asp Cys
            260   265   270

gat gag cac tca acg gaa tcc cga tgt tgt cgc tac ccg ctg aca gtg   864
Asp Glu His Ser Thr Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr Val
            275   280   285

gat ttc gaa gct ttt gga tgg gac tgg att ata gca cct aaa aga tac   912
Asp Phe Glu Ala Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg Tyr
290   295   300

aaa gcc aat tac tgc tcc gga gaa tgc gaa ttt gtg ttt cta cag aaa   960
Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu Phe Val Phe Leu Gln Lys
305   310   315   320

tac ccg cac act cac ctg gta cac caa gca aat ccc aga ggc tca gca   1008
Tyr Pro His Thr His Leu Val His Gln Ala Asn Pro Arg Gly Ser Ala
            325   330   335

```
ggc cct tgc tgc aca ccc acc aag atg tcc cct ata aac atg ctg tat      1056
Gly Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu Tyr
        340             345             350

ttc aat gga aaa gaa caa ata ata tat gga aag ata cca gcc atg gtt      1104
Phe Asn Gly Lys Glu Gln Ile Ile Tyr Gly Lys Ile Pro Ala Met Val
        355             360             365

gta gat cgt tgc ggg tgc tca tga                                      1128
Val Asp Arg Cys Gly Cys Ser
        370             375
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<210> 8
<211> 374
<212> PRT
<213> Gallus gallus

<400> 8

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Gln Lys Leu Ala Val Tyr Val Tyr Ile Tyr Leu Phe Met Gln Ile Ala
1               5               10              15
Val Asp Pro Val Ala Leu Asp Gly Ser Ser Gln Pro Thr Glu Asn Ala
        20              25              30
Glu Lys Asp Gly Leu Cys Asn Ala Cys Thr Trp Arg Gln Asn Thr Lys
        35              40              45
Ser Ser Arg Ile Glu Ala Ile Lys Ile Gln Ile Leu Ser Lys Leu Arg
    50              55              60
Leu Glu Gln Ala Pro Asn Ile Ser Arg Asp Val Ile Lys Gln Leu Leu
65              70              75              80
Pro Lys Ala Pro Pro Leu Gln Glu Leu Ile Asp Gln Tyr Asp Val Gln
            85              90              95
Arg Asp Asp Ser Ser Asp Gly Ser Leu Glu Asp Asp Asp Tyr His Ala
            100             105             110
Thr Thr Glu Thr Ile Ile Thr Met Pro Thr Glu Ser Asp Phe Leu Val
        115             120             125
Gln Met Glu Gly Lys Pro Lys Cys Cys Phe Phe Lys Phe Ser Ser Lys
    130             135             140
Ile Gln Tyr Asn Lys Val Val Lys Ala Gln Leu Trp Ile Tyr Leu Arg
145             150             155             160
Gln Val Gln Lys Pro Thr Thr Val Phe Val Gln Ile Leu Arg Leu Ile
            165             170             175
Lys Pro Met Lys Asp Gly Thr Arg Tyr Thr Gly Ile Arg Ser Leu Lys
            180             185             190
Leu Asp Met Asn Pro Gly Thr Gly Ile Trp Gln Ser Ile Asp Val Lys
        195             200             205
Thr Val Leu Gln Asn Trp Leu Lys Gln Pro Glu Ser Asn Leu Gly Ile
    210             215             220
Glu Ile Lys Ala Phe Asp Glu Thr Gly Arg Asp Leu Ala Val Thr Phe
225             230             235             240
Pro Gly Pro Gly Glu Asp Gly Leu Asn Pro Phe Leu Glu Val Arg Val
            245             250             255
Thr Asp Thr Pro Lys Arg Ser Arg Arg Asp Phe Gly Leu Asp Cys Asp
        260             265             270
Glu His Ser Thr Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr Val Asp
        275             280             285
Phe Glu Ala Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg Tyr Lys
    290             295             300
Ala Asn Tyr Cys Ser Gly Glu Cys Glu Phe Val Phe Leu Gln Lys Tyr
305             310             315             320
```

```
Pro His Thr His Leu Val His Gln Ala Asn Pro Arg Gly Ser Ala Gly
            325                 330             335
Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu Tyr Phe
            340                 345             350
Asn Gly Lys Glu Gln Ile Ile Tyr Gly Lys Ile Pro Ala Met Val Val
            355                 360             365
Asp Arg Cys Gly Cys Ser
            370
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<210> 9
<211> 1128
<212> DNA
<213> Baboon

<220>
<221> CDS
<222> (1)...(1125)

<400> 9

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atg caa aaa ctg caa ctc tgt gtt tat att tac ctg ttt atg ctg att        48
Met Gln Lys Leu Gln Leu Cys Val Tyr Ile Tyr Leu Phe Met Leu Ile
  1               5                  10                  15

gtt gct ggt cca gtg gat cta aat gag aac agt gag caa aaa gaa aat        96
Val Ala Gly Pro Val Asp Leu Asn Glu Asn Ser Glu Gln Lys Glu Asn
                20                  25                  30

gtg gaa aaa gag ggg ctg tgt aat gca tgt act tgg aga caa aac act       144
Val Glu Lys Glu Gly Leu Cys Asn Ala Cys Thr Trp Arg Gln Asn Thr
            35                  40                  45

aaa tct tca aga ata gaa gcc att aaa ata caa atc ctc agt aaa ctt       192
Lys Ser Ser Arg Ile Glu Ala Ile Lys Ile Gln Ile Leu Ser Lys Leu
        50                  55                  60

cgt ctg gaa aca gct cct aac atc agc aaa gat gct ata aga caa ctt       240
Arg Leu Glu Thr Ala Pro Asn Ile Ser Lys Asp Ala Ile Arg Gln Leu
  65                  70                  75                  80

tta ccc aaa gcg cct cca ctc cgg gaa ctg att gat cag tat gat gtc       288
Leu Pro Lys Ala Pro Pro Leu Arg Glu Leu Ile Asp Gln Tyr Asp Val
                85                  90                  95

cag agg gat gac agc agc gat ggc tct ttg gaa gat gac gat tat cac       336
Gln Arg Asp Asp Ser Ser Asp Gly Ser Leu Glu Asp Asp Asp Tyr His
                100                 105                 110

gct aca acg gaa aca atc att acc atg cct aca gag tct gat ttt tta       384
Ala Thr Thr Glu Thr Ile Ile Thr Met Pro Thr Glu Ser Asp Phe Leu
            115                 120                 125

atg caa gtg gat gga aaa ccc aaa tgt tgc ttc ttt aaa ttt agc tct       432
Met Gln Val Asp Gly Lys Pro Lys Cys Cys Phe Phe Lys Phe Ser Ser
        130                 135                 140

aaa ata caa tac aat aaa gtg gta aag gcc caa cta tgg ata tat ttg       480
Lys Ile Gln Tyr Asn Lys Val Val Lys Ala Gln Leu Trp Ile Tyr Leu
145                 150                 155                 160

aga ccc gtc gag act cct aca aca gtg ttt gtg caa atc ctg aga ctc       528
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```
Arg Pro Val Glu Thr Pro Thr Thr Val Phe Val Gln Ile Leu Arg Leu
            165              170              175

atc aaa cct atg aaa gac ggt aca agg tat act gga atc cga tct ctg      576
Ile Lys Pro Met Lys Asp Gly Thr Arg Tyr Thr Gly Ile Arg Ser Leu
            180              185              190

aaa ctt gac atg aac cca ggc act ggt att tgg cag agc att gat gtg      624
Lys Leu Asp Met Asn Pro Gly Thr Gly Ile Trp Gln Ser Ile Asp Val
            195              200              205

aag aca gtg ttg caa aat tgg ctc aaa caa cct gaa tcc aac tta ggc      672
Lys Thr Val Leu Gln Asn Trp Leu Lys Gln Pro Glu Ser Asn Leu Gly
            210              215              220

att gaa ata aaa gct tta gat gag aat ggt cat gat ctt gct gta acc      720
Ile Glu Ile Lys Ala Leu Asp Glu Asn Gly His Asp Leu Ala Val Thr
225              230              235              240

ttc cca gga cca gga gaa gat ggg ctg aat ccc ttt tta gag gtc aag      768
Phe Pro Gly Pro Gly Glu Asp Gly Leu Asn Pro Phe Leu Glu Val Lys
            245              250              255

gta aca gac aca ccc aaa aga tcc aga agg gat ttt ggt ctt gac tgt      816
Val Thr Asp Thr Pro Lys Arg Ser Arg Arg Asp Phe Gly Leu Asp Cys
            260              265              270

gat gag cac tca aca gaa tcg cga tgc tgt cgt tac cct cta act gtg      864
Asp Glu His Ser Thr Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr Val
            275              280              285

gat ttt gaa gct ctt gga tgg gat tgg att atc gct cct aaa aga tat      912
Asp Phe Glu Ala Leu Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg Tyr
            290              295              300

aag gcc aat tac tgc tct gga gag tgt gaa ttt gta ttt tta caa aaa      960
Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu Phe Val Phe Leu Gln Lys
305              310              315              320

tat cct cat act cat ctg gta cac caa gca aac ccc aga ggt tca gca     1008
Tyr Pro His Thr His Leu Val His Gln Ala Asn Pro Arg Gly Ser Ala
            325              330              335

ggc cct tgc tgt act ccc aca aag atg tct cca att aat atg cta tat     1056
Gly Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu Tyr
            340              345              350

ttt aat ggc aaa gaa caa ata ata tat ggg aaa att cca gcc atg gta     1104
Phe Asn Gly Lys Glu Gln Ile Ile Tyr Gly Lys Ile Pro Ala Met Val
            355              360              365

gta gac cgc tgc ggg tgc tca tga                                     1128
Val Asp Arg Cys Gly Cys Ser
370              375
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<210> 10
<211> 375
<212> PRT
<213> Baboon

<400> 10

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Met Gln Lys Leu Gln Leu Cys Val Tyr Ile Tyr Leu Phe Met Leu Ile
1               5                   10                  15
Val Ala Gly Pro Val Asp Leu Asn Glu Asn Ser Glu Gln Lys Glu Asn
            20                  25                  30
Val Glu Lys Glu Gly Leu Cys Asn Ala Cys Thr Trp Arg Gln Asn Thr
            35                  40                  45
Lys Ser Ser Arg Ile Glu Ala Ile Lys Ile Gln Ile Leu Ser Lys Leu
    50                  55                  60
Arg Leu Glu Thr Ala Pro Asn Ile Ser Lys Asp Ala Ile Arg Gln Leu
65                  70                  75                  80
Leu Pro Lys Ala Pro Pro Leu Arg Glu Leu Ile Asp Gln Tyr Asp Val
                85                  90                  95
Gln Arg Asp Asp Ser Ser Asp Gly Ser Leu Glu Asp Asp Asp Tyr His
            100                 105                 110
Ala Thr Thr Glu Thr Ile Ile Thr Met Pro Thr Glu Ser Asp Phe Leu
            115                 120                 125
Met Gln Val Asp Gly Lys Pro Lys Cys Cys Phe Phe Lys Phe Ser Ser
            130                 135                 140
Lys Ile Gln Tyr Asn Lys Val Val Lys Ala Gln Leu Trp Ile Tyr Leu
145                 150                 155                 160
Arg Pro Val Glu Thr Pro Thr Thr Val Phe Val Gln Ile Leu Arg Leu
                165                 170                 175
Ile Lys Pro Met Lys Asp Gly Thr Arg Tyr Thr Gly Ile Arg Ser Leu
            180                 185                 190
Lys Leu Asp Met Asn Pro Gly Thr Gly Ile Trp Gln Ser Ile Asp Val
            195                 200                 205
Lys Thr Val Leu Gln Asn Trp Leu Lys Gln Pro Glu Ser Asn Leu Gly
    210                 215                 220
Ile Glu Ile Lys Ala Leu Asp Glu Asn Gly His Asp Leu Ala Val Thr
225                 230                 235                 240
Phe Pro Gly Pro Gly Glu Asp Gly Leu Asn Pro Phe Leu Glu Val Lys
                245                 250                 255
Val Thr Asp Thr Pro Lys Arg Ser Arg Arg Asp Phe Gly Leu Asp Cys
            260                 265                 270
Asp Glu His Ser Thr Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr Val
            275                 280                 285
Asp Phe Glu Ala Leu Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg Tyr
290                 295                 300
Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu Phe Val Phe Leu Gln Lys
305                 310                 315                 320
Tyr Pro His Thr His Leu Val His Gln Ala Asn Pro Arg Gly Ser Ala
            325                 330                 335
Gly Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu Tyr
            340                 345                 350
Phe Asn Gly Lys Glu Gln Ile Ile Tyr Gly Lys Ile Pro Ala Met Val
            355                 360                 365
Val Asp Arg Cys Gly Cys Ser
    370                 375
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<210> 11
<211> 1128
<212> DNA
<213> Bovine

<220>
<221> CDS
<222> (1)...(1125)

<400> 11

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atg caa aaa ctg caa atc tct gtt tat att tac cta ttt atg ctg att          48
Met Gln Lys Leu Gln Ile Ser Val Tyr Ile Tyr Leu Phe Met Leu Ile
 1               5                  10                  15

gtt gct ggc cca gtg gat ctg aat gag aac agc gag cag aag gaa aat          96
Val Ala Gly Pro Val Asp Leu Asn Glu Asn Ser Glu Gln Lys Glu Asn
                20                  25                  30

gtg gaa aaa gag ggg ctg tgt aat gca tgt ttg tgg agg gaa aac act         144
Val Glu Lys Glu Gly Leu Cys Asn Ala Cys Leu Trp Arg Glu Asn Thr
            35                  40                  45

aca tcg tca aga cta gaa gcc ata aaa atc caa atc ctc agt aaa ctt         192
Thr Ser Ser Arg Leu Glu Ala Ile Lys Ile Gln Ile Leu Ser Lys Leu
        50                  55                  60

cgc ctg gaa aca gct cct aac atc agc aaa gat gct atc aga caa ctt         240
Arg Leu Glu Thr Ala Pro Asn Ile Ser Lys Asp Ala Ile Arg Gln Leu
65                  70                  75                  80

ttg ccc aag gct cct cca ctc ctg gaa ctg att gat cag ttc gat gtc         288
Leu Pro Lys Ala Pro Pro Leu Leu Glu Leu Ile Asp Gln Phe Asp Val
                85                  90                  95

cag aga gat gcc agc agt gac ggc tcc ttg gaa gac gat gac tac cac         336
Gln Arg Asp Ala Ser Ser Asp Gly Ser Leu Glu Asp Asp Asp Tyr His
                100                 105                 110

gcc agg acg gaa acg gtc att acc atg ccc acg gag tct gat ctt cta         384
Ala Arg Thr Glu Thr Val Ile Thr Met Pro Thr Glu Ser Asp Leu Leu
            115                 120                 125

acg caa gtg gaa gga aaa ccc aaa tgt tgc ttc ttt aaa ttt agc tct         432
Thr Gln Val Glu Gly Lys Pro Lys Cys Cys Phe Phe Lys Phe Ser Ser
        130                 135                 140

aag ata caa tac aat aaa cta gta aag gcc caa ctg tgg ata tat ctg         480
Lys Ile Gln Tyr Asn Lys Leu Val Lys Ala Gln Leu Trp Ile Tyr Leu
145                 150                 155                 160

agg cct gtc aag act cct gcg aca gtg ttt gtg caa atc ctg aga ctc         528
Arg Pro Val Lys Thr Pro Ala Thr Val Phe Val Gln Ile Leu Arg Leu
                165                 170                 175

atc aaa ccc atg aaa gac ggt aca agg tat act gga atc cga tct ctg         576
Ile Lys Pro Met Lys Asp Gly Thr Arg Tyr Thr Gly Ile Arg Ser Leu
                180                 185                 190

aaa ctt gac atg aac cca ggc act ggt att tgg cag agc att gat gtg         624
Lys Leu Asp Met Asn Pro Gly Thr Gly Ile Trp Gln Ser Ile Asp Val
                195                 200                 205

aag aca gtg ttg cag aac tgg ctc aaa caa cct gaa tcc aac tta ggc         672
Lys Thr Val Leu Gln Asn Trp Leu Lys Gln Pro Glu Ser Asn Leu Gly
        210                 215                 220

att gaa atc aaa gct tta gat gag aat ggc cat gat ctt gct gta acc         720
Ile Glu Ile Lys Ala Leu Asp Glu Asn Gly His Asp Leu Ala Val Thr
225                 230                 235                 240
```

```
ttc cca gaa cca gga gaa gat gga ctg act ccc ttt tta gaa gtc aag        768
Phe Pro Glu Pro Gly Glu Asp Gly Leu Thr Pro Phe Leu Glu Val Lys
            245                 250                 255

gta aca gac aca cca aaa aga tct agg aga gat ttt ggg ctt gat tgt        816
Val Thr Asp Thr Pro Lys Arg Ser Arg Arg Asp Phe Gly Leu Asp Cys
            260                 265                 270

gat gaa cac tcc aca gaa tct cga tgc tgt cgt tac cct cta act gtg        864
Asp Glu His Ser Thr Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr Val
            275                 280                 285

gat ttt gaa gct ttt gga tgg gat tgg att att gca cct aaa aga tat       912
Asp Phe Glu Ala Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg Tyr
            290                 295                 300

aag gcc aat tac tgc tct gga gaa tgt gaa ttt gta ttt ttg caa aag       960
Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu Phe Val Phe Leu Gln Lys
305                 310                 315                 320

tat cct cat acc cat ctt gtg cac caa gca aac ccc aga ggt tca gcc      1008
Tyr Pro His Thr His Leu Val His Gln Ala Asn Pro Arg Gly Ser Ala
            325                 330                 335

ggc ccc tgc tgt act cct aca aag atg tct cca att aat atg cta tat      1056
Gly Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu Tyr
            340                 345                 350

ttt aat ggc gaa gga caa ata ata tac ggg aag att cca gcc atg gta      1104
Phe Asn Gly Glu Gly Gln Ile Ile Tyr Gly Lys Ile Pro Ala Met Val
            355                 360                 365

gta gat cgc tgt ggg tgt tca tga                                       1128
Val Asp Arg Cys Gly Cys Ser
            370                 375
```

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<210> 12
<211> 375
<212> PRT
<213> Bovine


<400> 12
Met Gln Lys Leu Gln Ile Ser Val Tyr Ile Tyr Leu Phe Met Leu Ile
1               5                   10                  15
Val Ala Gly Pro Val Asp Leu Asn Glu Asn Ser Glu Gln Lys Glu Asn
            20                  25                  30
Val Glu Lys Glu Gly Leu Cys Asn Ala Cys Leu Trp Arg Glu Asn Thr
        35                  40                  45
Thr Ser Ser Arg Leu Glu Ala Ile Lys Ile Gln Ile Leu Ser Lys Leu
        50                  55                  60
Arg Leu Glu Thr Ala Pro Asn Ile Ser Lys Asp Ala Ile Arg Gln Leu
65                  70                  75                  80
Leu Pro Lys Ala Pro Pro Leu Leu Glu Leu Ile Asp Gln Phe Asp Val
            85                  90                  95
Gln Arg Asp Ala Ser Ser Asp Gly Ser Leu Glu Asp Asp Asp Tyr His
            100                 105                 110
Ala Arg Thr Glu Thr Val Ile Thr Met Pro Thr Glu Ser Asp Leu Leu
            115                 120                 125
```

```
Thr Gln Val Glu Gly Lys Pro Lys Cys Cys Phe Phe Lys Phe Ser Ser
    130             135             140
Lys Ile Gln Tyr Asn Lys Leu Val Lys Ala Gln Leu Trp Ile Tyr Leu
145             150             155             160
Arg Pro Val Lys Thr Pro Ala Thr Val Phe Val Gln Ile Leu Arg Leu
                165             170             175
Ile Lys Pro Met Lys Asp Gly Thr Arg Tyr Thr Gly Ile Arg Ser Leu
                180             185             190
Lys Leu Asp Met Asn Pro Gly Thr Gly Ile Trp Gln Ser Ile Asp Val
            195             200             205
Lys Thr Val Leu Gln Asn Trp Leu Lys Gln Pro Glu Ser Asn Leu Gly
    210             215             220
Ile Glu Ile Lys Ala Leu Asp Glu Asn Gly His Asp Leu Ala Val Thr
225             230             235             240
Phe Pro Glu Pro Gly Glu Asp Gly Leu Thr Pro Phe Leu Glu Val Lys
                245             250             255
Val Thr Asp Thr Pro Lys Arg Ser Arg Arg Asp Phe Gly Leu Asp Cys
            260             265             270
Asp Glu His Ser Thr Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr Val
        275             280             285
Asp Phe Glu Ala Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg Tyr
    290             295             300
Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu Phe Val Phe Leu Gln Lys
305             310             315             320
Tyr Pro His Thr His Leu Val His Gln Ala Asn Pro Arg Gly Ser Ala
            325             330             335
Gly Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu Tyr
            340             345             350
Phe Asn Gly Glu Gly Gln Ile Ile Tyr Gly Lys Ile Pro Ala Met Val
        355             360             365
Val Asp Arg Cys Gly Cys Ser
    370             375
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<210> 13
<211> 1128
<212> DNA
<213> Porcine

<220>
<221> CDS
<222> (1)...(1125)

<400> 13

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atg caa aaa ctg caa atc tat gtt tat att tac ctg ttt atg ctg att       48
Met Gln Lys Leu Gln Ile Tyr Val Tyr Ile Tyr Leu Phe Met Leu Ile
 1               5                  10                  15

gtt gct ggt ccc gtg gat ctg aat gag aac agc gag caa aag gaa aat       96
Val Ala Gly Pro Val Asp Leu Asn Glu Asn Ser Glu Gln Lys Glu Asn
            20                  25                  30

gtg gaa aaa gag ggg ctg tgt aat gca tgt atg tgg aga caa aac act      144
Val Glu Lys Glu Gly Leu Cys Asn Ala Cys Met Trp Arg Gln Asn Thr
        35                  40                  45

aaa tct tca aga cta gaa gcc ata aaa att caa atc ctc agt aaa ctt      192
Lys Ser Ser Arg Leu Glu Ala Ile Lys Ile Gln Ile Leu Ser Lys Leu
        50                  55                  60

cgc ctg gaa aca gct cct aac att agc aaa gat gct ata aga caa ctt      240
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```
Arg Leu Glu Thr Ala Pro Asn Ile Ser Lys Asp Ala Ile Arg Gln Leu
65                  70                  75                  80


ttg ccc aaa gct cct cca ctc cgg gaa ctg att gat cag tac gat gtc    288
Leu Pro Lys Ala Pro Pro Leu Arg Glu Leu Ile Asp Gln Tyr Asp Val
                85                  90                  95


cag aga gat gac agc agt gat ggc tcc ttg gaa gat gat gat tat cac    336
Gln Arg Asp Asp Ser Ser Asp Gly Ser Leu Glu Asp Asp Asp Tyr His
                100                 105                 110


gct acg acg gaa acg atc att acc atg cct aca gag tct gat ctt cta    384
Ala Thr Thr Glu Thr Ile Ile Thr Met Pro Thr Glu Ser Asp Leu Leu
            115                 120                 125


atg caa gtg gaa gga aaa ccc aaa tgc tgc ttc ttt aaa ttt agc tct    432
Met Gln Val Glu Gly Lys Pro Lys Cys Cys Phe Phe Lys Phe Ser Ser
            130                 135                 140


aaa ata caa tac aat aaa gta gta aag gcc caa ctg tgg ata tat ctg    480
Lys Ile Gln Tyr Asn Lys Val Val Lys Ala Gln Leu Trp Ile Tyr Leu
    145                 150                 155                 160


aga ccc gtc aag act cct aca aca gtg ttt gtg caa atc ctg aga ctc    528
Arg Pro Val Lys Thr Pro Thr Thr Val Phe Val Gln Ile Leu Arg Leu
                165                 170                 175


atc aaa ccc atg aaa gac ggt aca agg tat act gga atc cga tct ctg    576
Ile Lys Pro Met Lys Asp Gly Thr Arg Tyr Thr Gly Ile Arg Ser Leu
                180                 185                 190


aaa ctt gac atg aac cca ggc act ggt att tgg cag agc att gat gtg    624
Lys Leu Asp Met Asn Pro Gly Thr Gly Ile Trp Gln Ser Ile Asp Val
                195                 200                 205


aag aca gtg ttg caa aat tgg ctc aaa caa cct gaa tcc aac tta ggc    672
Lys Thr Val Leu Gln Asn Trp Leu Lys Gln Pro Glu Ser Asn Leu Gly
    210                 215                 220


att gaa atc aaa gct tta gat gag aat ggt cat gat ctt gct gta acc    720
Ile Glu Ile Lys Ala Leu Asp Glu Asn Gly His Asp Leu Ala Val Thr
225                 230                 235                 240


ttc cca gga cca gga gaa gat ggg ctg aat ccc ttt tta gaa gtc aag    768
Phe Pro Gly Pro Gly Glu Asp Gly Leu Asn Pro Phe Leu Glu Val Lys
            245                 250                 255


gta aca gac aca cca aaa aga tcc agg aga gat ttt gga ctc gac tgt    816
Val Thr Asp Thr Pro Lys Arg Ser Arg Arg Asp Phe Gly Leu Asp Cys
            260                 265                 270


gat gag cac tca aca gaa tct cga tgc tgt cgt tac cct cta act gtg    864
Asp Glu His Ser Thr Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr Val
            275                 280                 285


gat ttt gaa gct ttt gga tgg gac tgg att att gca ccc aaa aga tat    912
Asp Phe Glu Ala Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg Tyr
    290                 295                 300


aag gcc aat tac tgc tct gga gag tgt gaa ttt gta ttt tta caa aaa    960
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| Lys 305 | Ala | Asn | Tyr | Cys | Ser 310 | Gly | Glu | Cys | Glu | Phe 315 | Val | Phe | Leu | Gln | Lys 320 | |

| tac | cct | cac | act | cat | ctt | gtg | cac | caa | gca | aac | ccc | aga | ggt | tca | gca | 1008 |
| Tyr | Pro | His | Thr | His 325 | Leu | Val | His | Gln 330 | Ala | Asn | Pro | Arg | Gly | Ser 335 | Ala | |

| ggc | ccc | tgc | tgt | act | ccc | aca | aag | atg | tct | cca | atc | aat | atg | cta | tat | 1056 |
| Gly | Pro | Cys | Cys 340 | Thr | Pro | Thr | Lys | Met 345 | Ser | Pro | Ile | Asn | Met 350 | Leu | Tyr | |

| ttt | aat | ggc | aaa | gaa | caa | ata | ata | tat | ggg | aaa | att | cca | gcc | atg | gta | 1104 |
| Phe | Asn | Gly 355 | Lys | Glu | Gln | Ile | Ile 360 | Tyr | Gly | Lys | Ile | Pro 365 | Ala | Met | Val | |

| gta | gat | cgc | tgt | ggg | tgc | tca | tga | | | | | | | | | 1128 |
| Val | Asp 370 | Arg | Cys | Gly | Cys | Ser 375 | | | | | | | | | | |

<210> 14
<211> 375
<212> PRT
<213> Porcine

<400> 14

Met 1	Gln	Lys	Leu	Gln 5	Ile	Tyr	Val	Tyr	Ile 10	Tyr	Leu	Phe	Met	Leu 15	Ile
Val	Ala	Gly	Pro 20	Val	Asp	Leu	Asn	Glu 25	Asn	Ser	Glu	Gln	Lys 30	Glu	Asn
Val	Glu	Lys 35	Glu	Gly	Leu	Cys	Asn 40	Ala	Cys	Met	Trp	Arg 45	Gln	Asn	Thr
Lys	Ser 50	Ser	Arg	Leu	Glu	Ala 55	Ile	Lys	Ile	Gln	Ile 60	Leu	Ser	Lys	Leu
Arg 65	Leu	Glu	Thr	Ala	Pro 70	Asn	Ile	Ser	Lys	Asp 75	Ala	Ile	Arg	Gln	Leu 80
Leu	Pro	Lys	Ala	Pro 85	Pro	Leu	Arg	Glu	Leu 90	Ile	Asp	Gln	Tyr	Asp 95	Val
Gln	Arg	Asp	Asp 100	Ser	Ser	Asp	Gly	Ser 105	Leu	Glu	Asp	Asp	Asp 110	Tyr	His
Ala	Thr	Thr 115	Glu	Thr	Ile	Ile	Thr 120	Met	Pro	Thr	Glu	Ser 125	Asp	Leu	Leu
Met	Gln 130	Val	Glu	Gly	Lys	Pro 135	Lys	Cys	Cys	Phe	Phe 140	Lys	Phe	Ser	Ser
Lys 145	Ile	Gln	Tyr	Asn	Lys 150	Val	Val	Lys	Ala	Gln 155	Leu	Trp	Ile	Tyr	Leu 160
Arg	Pro	Val	Lys	Thr 165	Pro	Thr	Thr	Val	Phe 170	Val	Gln	Ile	Leu	Arg 175	Leu
Ile	Lys	Pro	Met 180	Lys	Asp	Gly	Thr	Arg 185	Tyr	Thr	Gly	Ile	Arg 190	Ser	Leu
Lys	Leu	Asp 195	Met	Asn	Pro	Gly	Thr 200	Gly	Ile	Trp	Gln	Ser 205	Ile	Asp	Val
Lys	Thr 210	Val	Leu	Gln	Asn	Trp 215	Leu	Lys	Gln	Pro	Glu 220	Ser	Asn	Leu	Gly
Ile 225	Glu	Ile	Lys	Ala	Leu 230	Asp	Glu	Asn	Gly	His 235	Asp	Leu	Ala	Val	Thr 240
Phe	Pro	Gly	Pro	Gly 245	Glu	Asp	Gly	Leu	Asn 250	Pro	Phe	Leu	Glu	Val 255	Lys
Val	Thr	Asp	Thr	Pro 260	Lys	Arg	Ser	Arg 265	Arg	Asp	Phe	Gly	Leu 270	Asp	Cys

```
Asp Glu His Ser Thr Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr Val
        275                 280                 285
Asp Phe Glu Ala Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg Tyr
    290                 295                 300
Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu Phe Val Phe Leu Gln Lys
305                 310                 315                 320
Tyr Pro His Thr His Leu Val His Gln Ala Asn Pro Arg Gly Ser Ala
                325                 330                 335
Gly Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu Tyr
            340                 345                 350
Phe Asn Gly Lys Glu Gln Ile Ile Tyr Gly Lys Ile Pro Ala Met Val
        355                 360                 365
Val Asp Arg Cys Gly Cys Ser
    370                 375
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<210> 15
<211> 1128
<212> DNA
<213> Ovine

<220>
<221> CDS
<222> (1)...(1125)

<400> 15
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Met Gln Lys Leu Gln Ile Phe Val Tyr Ile Tyr Leu Phe Met Leu Leu
1               5                   10                  15

gtt gct ggc cca gtg gat ctg aat gag aac agc gag cag aag gaa aat      96
Val Ala Gly Pro Val Asp Leu Asn Glu Asn Ser Glu Gln Lys Glu Asn
            20                  25                  30

gtg gaa aaa aag ggg ctg tgt aat gca tgc ttg tgg aga caa aac aat     144
Val Glu Lys Lys Gly Leu Cys Asn Ala Cys Leu Trp Arg Gln Asn Asn
        35                  40                  45

aaa tcc tca aga cta gaa gcc ata aaa atc caa atc ctc agt aag ctt     192
Lys Ser Ser Arg Leu Glu Ala Ile Lys Ile Gln Ile Leu Ser Lys Leu
        50                  55                  60

cgc ctg gaa aca gct cct aac atc agc aaa gat gct ata aga caa ctt     240
Arg Leu Glu Thr Ala Pro Asn Ile Ser Lys Asp Ala Ile Arg Gln Leu
65                  70                  75                  80

ttg ccc aag gct cct cca ctc cgg gaa ctg att gat cag tac gat gtc     288
Leu Pro Lys Ala Pro Pro Leu Arg Glu Leu Ile Asp Gln Tyr Asp Val
                85                  90                  95

cag aga gat gac agc agc gac ggc tcc ttg gaa gac gat gac tac cac     336
Gln Arg Asp Asp Ser Ser Asp Gly Ser Leu Glu Asp Asp Asp Tyr His
            100                 105                 110

gtt acg acg gaa acg gtc att acc atg ccc acg gag tct gat ctt cta     384
Val Thr Thr Glu Thr Val Ile Thr Met Pro Thr Glu Ser Asp Leu Leu
        115                 120                 125

gca gaa gtg caa gaa aaa ccc aaa tgt tgc ttc ttt aaa ttt agc tct     432
Ala Glu Val Gln Glu Lys Pro Lys Cys Cys Phe Phe Lys Phe Ser Ser
        130                 135                 140
```

```
aag ata caa cac aat aaa gta gta aag gcc caa ctg tgg ata tat ctg        480
Lys Ile Gln His Asn Lys Val Val Lys Ala Gln Leu Trp Ile Tyr Leu
145                 150                 155                 160

aga cct gtc aag act cct aca aca gtg ttt gtg caa atc ctg aga ctc        528
Arg Pro Val Lys Thr Pro Thr Thr Val Phe Val Gln Ile Leu Arg Leu
                    165                 170                 175

atc aaa ccc atg aaa gac ggt aca agg tat act gga atc cga tct ctg        576
Ile Lys Pro Met Lys Asp Gly Thr Arg Tyr Thr Gly Ile Arg Ser Leu
                180                 185                 190

aaa ctt gac atg aac cca ggc act ggt att tgg cag agc att gat gtg        624
Lys Leu Asp Met Asn Pro Gly Thr Gly Ile Trp Gln Ser Ile Asp Val
                195                 200                 205

aag aca gtg ttg caa aac tgg ctc aaa caa cct gaa tcc aac tta ggc        672
Lys Thr Val Leu Gln Asn Trp Leu Lys Gln Pro Glu Ser Asn Leu Gly
            210                 215                 220

att gaa atc aaa gct tta gat gag aat ggt cat gat ctt gct gta acc        720
Ile Glu Ile Lys Ala Leu Asp Glu Asn Gly His Asp Leu Ala Val Thr
225                 230                 235                 240

ttc cca gaa cca gga gaa gaa gga ctg aat cct ttt tta gaa gtc aag        768
Phe Pro Glu Pro Gly Glu Glu Gly Leu Asn Pro Phe Leu Glu Val Lys
                    245                 250                 255

gta aca gac aca cca aaa aga tct agg aga gat ttt ggg ctt gat tgt        816
Val Thr Asp Thr Pro Lys Arg Ser Arg Arg Asp Phe Gly Leu Asp Cys
                260                 265                 270

gat gag cac tcc aca gaa tct cga tgc tgt cgt tac cct cta act gtg        864
Asp Glu His Ser Thr Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr Val
                275                 280                 285

gat ttt gaa gct ttt gga tgg gat tgg att att gca cct aaa aga tat        912
Asp Phe Glu Ala Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg Tyr
290                 295                 300

aag gcc aat tac tgc tct gga gaa tgt gaa ttt tta ttt ttg caa aag        960
Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu Phe Leu Phe Leu Gln Lys
305                 310                 315                 320

tat cct cat acc cat ctt gtg cac caa gca aac ccc aaa ggt tca gcc       1008
Tyr Pro His Thr His Leu Val His Gln Ala Asn Pro Lys Gly Ser Ala
                325                 330                 335

ggc cct tgc tgt act cct aca aag atg tct cca att aat atg cta tat       1056
Gly Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu Tyr
                340                 345                 350

ttt aat ggc aaa gaa caa ata ata tat ggg aag att cca ggc atg gta       1104
Phe Asn Gly Lys Glu Gln Ile Ile Tyr Gly Lys Ile Pro Gly Met Val
                355                 360                 365

gta gat cgc tgt ggg tgc tca tga                                       1128
Val Asp Arg Cys Gly Cys Ser
370                 375
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<210> 16
<211> 375
<212> PRT
<213> Ovine

<400> 16
Met Gln Lys Leu Gln Ile Phe Val Tyr Ile Tyr Leu Phe Met Leu Leu
1   5   10   15
Val Ala Gly Pro Val Asp Leu Asn Glu Asn Ser Glu Gln Lys Glu Asn
            20   25   30
Val Glu Lys Lys Gly Leu Cys Asn Ala Cys Leu Trp Arg Gln Asn Asn
        35   40   45
Lys Ser Ser Arg Leu Glu Ala Ile Lys Ile Gln Ile Leu Ser Lys Leu
    50   55   60
Arg Leu Glu Thr Ala Pro Asn Ile Ser Lys Asp Ala Ile Arg Gln Leu
65   70   75   80
Leu Pro Lys Ala Pro Pro Leu Arg Glu Leu Ile Asp Gln Tyr Asp Val
                85   90   95
Gln Arg Asp Asp Ser Ser Asp Gly Ser Leu Glu Asp Asp Asp Tyr His
            100   105   110
Val Thr Thr Glu Thr Val Ile Thr Met Pro Thr Glu Ser Asp Leu Leu
        115   120   125
Ala Glu Val Gln Glu Lys Pro Lys Cys Cys Phe Phe Lys Phe Ser Ser
    130   135   140
Lys Ile Gln His Asn Lys Val Val Lys Ala Gln Leu Trp Ile Tyr Leu
145   150   155   160
Arg Pro Val Lys Thr Pro Thr Thr Val Phe Val Gln Ile Leu Arg Leu
                165   170   175
Ile Lys Pro Met Lys Asp Gly Thr Arg Tyr Thr Gly Ile Arg Ser Leu
            180   185   190
Lys Leu Asp Met Asn Pro Gly Thr Gly Ile Trp Gln Ser Ile Asp Val
        195   200   205
Lys Thr Val Leu Gln Asn Trp Leu Lys Gln Pro Glu Ser Asn Leu Gly
    210   215   220
Ile Glu Ile Lys Ala Leu Asp Glu Asn Gly His Asp Leu Ala Val Thr
225   230   235   240
Phe Pro Glu Pro Gly Glu Glu Gly Leu Asn Pro Phe Leu Glu Val Lys
                245   250   255
Val Thr Asp Thr Pro Lys Arg Ser Arg Arg Asp Phe Gly Leu Asp Cys
            260   265   270
Asp Glu His Ser Thr Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr Val
        275   280   285
Asp Phe Glu Ala Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg Tyr
        290   295   300
Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu Phe Leu Phe Leu Gln Lys
305   310   315   320
Tyr Pro His Thr His Leu Val His Gln Ala Asn Pro Lys Gly Ser Ala
            325   330   335
Gly Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu Tyr
            340   345   350
Phe Asn Gly Lys Glu Gln Ile Ile Tyr Gly Lys Ile Pro Gly Met Val
        355   360   365
Val Asp Arg Cys Gly Cys Ser
    370   375

<210> 17
<211> 1128
<212> DNA

<213> Meleagris gallopavo

<220>
<221> CDS
<222> (1)...(1125)

<400> 17

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atg caa aag cta gca gtc tat gtt tat att tac ctg ttc atg cag att        48
Met Gln Lys Leu Ala Val Tyr Val Tyr Ile Tyr Leu Phe Met Gln Ile
1               5                   10                  15

tta gtt cat ccg gtg gct ctt gat ggc agt agt cag ccc aca gag aac        96
Leu Val His Pro Val Ala Leu Asp Gly Ser Ser Gln Pro Thr Glu Asn
                20                  25                  30

gct gaa aaa gac gga ctg tgc aat gct tgc acg tgg aga cag aat act       144
Ala Glu Lys Asp Gly Leu Cys Asn Ala Cys Thr Trp Arg Gln Asn Thr
            35                  40                  45

aaa tcc tcc aga ata gaa gcc ata aaa att caa atc ctc agc aaa ctg       192
Lys Ser Ser Arg Ile Glu Ala Ile Lys Ile Gln Ile Leu Ser Lys Leu
        50                  55                  60

cgc ctg gaa caa gca cct aac att agc agg gac gtt att aaa caa ctt       240
Arg Leu Glu Gln Ala Pro Asn Ile Ser Arg Asp Val Ile Lys Gln Leu
65                  70                  75                  80

tta ccc aaa gct cct ccg ctg cag gaa ctg att gat cag tat gac gtc       288
Leu Pro Lys Ala Pro Pro Leu Gln Glu Leu Ile Asp Gln Tyr Asp Val
                85                  90                  95

cag aga gac gac agt agc gat ggc tct ttg gaa gac gat gac tat cat       336
Gln Arg Asp Asp Ser Ser Asp Gly Ser Leu Glu Asp Asp Asp Tyr His
            100                 105                 110

gcc aca acc gaa acg att atc aca atg cct acg gag tct gat ttt ctt       384
Ala Thr Thr Glu Thr Ile Ile Thr Met Pro Thr Glu Ser Asp Phe Leu
            115                 120                 125

gta caa atg gag gga aaa cca aaa tgt tgc ttc ttt aag ttt agc tct       432
Val Gln Met Glu Gly Lys Pro Lys Cys Cys Phe Phe Lys Phe Ser Ser
        130                 135                 140

aaa ata caa tat aac aaa gta gta aag gca caa tta tgg ata tac ttg       480
Lys Ile Gln Tyr Asn Lys Val Val Lys Ala Gln Leu Trp Ile Tyr Leu
145                 150                 155                 160

agg caa gtc caa aaa cct aca acg gtg ttt gtg cag atc ctg aga ctc       528
Arg Gln Val Gln Lys Pro Thr Thr Val Phe Val Gln Ile Leu Arg Leu
                165                 170                 175

att aaa ccc atg aaa gac ggt aca aga tat act gga att cga tct ttg       576
Ile Lys Pro Met Lys Asp Gly Thr Arg Tyr Thr Gly Ile Arg Ser Leu
            180                 185                 190

aaa ctt gac atg aac cca ggc act ggt atc tgg cag agt att gat gtg       624
Lys Leu Asp Met Asn Pro Gly Thr Gly Ile Trp Gln Ser Ile Asp Val
            195                 200                 205

aag aca gtg ttg caa aat tgg ctc aaa cag cct gaa tcc aat tta ggc       672
Lys Thr Val Leu Gln Asn Trp Leu Lys Gln Pro Glu Ser Asn Leu Gly
```

```
         Lys Thr Val Leu Gln Asn Trp Leu Lys Gln Pro Glu Ser Asn Leu Gly
         210                 215                 220

atc gaa ata aaa gct ttt gat gag aat gga cga gat ctt gct gta aca         720
Ile Glu Ile Lys Ala Phe Asp Glu Asn Gly Arg Asp Leu Ala Val Thr
225                 230                 235                 240

ttc cca gga cca ggt gaa gat gga ctg aac cca ttt tta gag gtc aga         768
Phe Pro Gly Pro Gly Glu Asp Gly Leu Asn Pro Phe Leu Glu Val Arg
                245                 250                 255

gtt aca gac aca cca aaa cgg tcc cgc aga gat ttt ggc ctt gac tgc         816
Val Thr Asp Thr Pro Lys Arg Ser Arg Arg Asp Phe Gly Leu Asp Cys
                260                 265                 270

gac gag cac tca acg gaa tct cga tgt tgt cgc tac ccg ctg aca gtg         864
Asp Glu His Ser Thr Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr Val
                275                 280                 285

gat ttt gaa gct ttt gga tgg gac tgg att ata gca cct aaa aga tac         912
Asp Phe Glu Ala Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg Tyr
        290                 295                 300

aaa gcc aat tac tgc tct gga gaa tgt gaa ttc gta ttt cta cag aaa         960
Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu Phe Val Phe Leu Gln Lys
305                 310                 315                 320

tac ccg cac act cac ctg gta cac caa gca aat cca aga ggc tca gca        1008
Tyr Pro His Thr His Leu Val His Gln Ala Asn Pro Arg Gly Ser Ala
                325                 330                 335

ggc cct tgc tgc aca ccc acc aag atg tcc cct ata aac atg ctg tat        1056
Gly Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu Tyr
                340                 345                 350

ttc aat gga aaa gaa caa ata ata tat gga aag ata cca gcc atg gtt        1104
Phe Asn Gly Lys Glu Gln Ile Ile Tyr Gly Lys Ile Pro Ala Met Val
                355                 360                 365

gta gat cgt tgc ggg tgc tca tga                                        1128
Val Asp Arg Cys Gly Cys Ser
370                 375
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<210> 18
<211> 375
<212> PRT
<213> Meleagris gallopavo

<400> 18
Met Gln Lys Leu Ala Val Tyr Val Tyr Ile Tyr Leu Phe Met Gln Ile
1                 5                   10                  15
Leu Val His Pro Val Ala Leu Asp Gly Ser Ser Gln Pro Thr Glu Asn
            20                  25                  30
Ala Glu Lys Asp Gly Leu Cys Asn Ala Cys Thr Trp Arg Gln Asn Thr
            35                  40                  45
Lys Ser Ser Arg Ile Glu Ala Ile Lys Ile Gln Ile Leu Ser Lys Leu
    50                  55                  60
Arg Leu Glu Gln Ala Pro Asn Ile Ser Arg Asp Val Ile Lys Gln Leu
65                  70                  75                  80
```

```
Leu Pro Lys Ala Pro Pro Leu Gln Glu Leu Ile Asp Gln Tyr Asp Val
                85                    90              95
Gln Arg Asp Asp Ser Ser Asp Gly Ser Leu Glu Asp Asp Asp Tyr His
            100                 105             110
Ala Thr Thr Glu Thr Ile Ile Thr Met Pro Thr Glu Ser Asp Phe Leu
        115                 120             125
Val Gln Met Glu Gly Lys Pro Lys Cys Cys Phe Phe Lys Phe Ser Ser
    130                 135             140
Lys Ile Gln Tyr Asn Lys Val Val Lys Ala Gln Leu Trp Ile Tyr Leu
145             150             155                 160
Arg Gln Val Gln Lys Pro Thr Thr Val Phe Val Gln Ile Leu Arg Leu
            165             170             175
Ile Lys Pro Met Lys Asp Gly Thr Arg Tyr Thr Gly Ile Arg Ser Leu
            180             185             190
Lys Leu Asp Met Asn Pro Gly Thr Gly Ile Trp Gln Ser Ile Asp Val
            195             200             205
Lys Thr Val Leu Gln Asn Trp Leu Lys Gln Pro Glu Ser Asn Leu Gly
    210             215             220
Ile Glu Ile Lys Ala Phe Asp Glu Asn Gly Arg Asp Leu Ala Val Thr
225             230             235             240
Phe Pro Gly Pro Gly Glu Asp Gly Leu Asn Pro Phe Leu Glu Val Arg
                245             250             255
Val Thr Asp Thr Pro Lys Arg Ser Arg Arg Asp Phe Gly Leu Asp Cys
            260             265             270
Asp Glu His Ser Thr Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr Val
    275             280             285
Asp Phe Glu Ala Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg Tyr
    290             295             300
Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu Phe Val Phe Leu Gln Lys
305             310             315             320
Tyr Pro His Thr His Leu Val His Gln Ala Asn Pro Arg Gly Ser Ala
            325             330             335
Gly Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu Tyr
            340             345             350
Phe Asn Gly Lys Glu Gln Ile Ile Tyr Gly Lys Ile Pro Ala Met Val
            355             360             365
Val Asp Arg Cys Gly Cys Ser
    370             375
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<210> 19
<211> 1125
<212> DNA
<213> Danio rerio

<220>
<221> CDS
<222> (1)...(1122)

<400> 19
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Met His Phe Thr Gln Val Leu Ile Ser Leu Ser Val Leu Ile Ala Cys
1               5                   10                  15

ggt cca gtg ggt tat gga gat ata acg gcg cac cag cag cct tcc aca      96
Gly Pro Val Gly Tyr Gly Asp Ile Thr Ala His Gln Gln Pro Ser Thr
                20                  25                  30

gcc acg gag gaa agc gag ctg tgt tcc aca tgt gag ttc aga caa cac     144
Ala Thr Glu Glu Ser Glu Leu Cys Ser Thr Cys Glu Phe Arg Gln His
        35                  40                  45
```

```
agc aag ctg atg aga ctg cat gcc atc aag tcc caa att ctt agc aaa        192
Ser Lys Leu Met Arg Leu His Ala Ile Lys Ser Gln Ile Leu Ser Lys
     50                  55                  60

ctc cga ctc aag cag gct cca aac atc agc cgg gac gtg gtc aag cag        240
Leu Arg Leu Lys Gln Ala Pro Asn Ile Ser Arg Asp Val Val Lys Gln
 65                  70                  75                  80

ctg tta ccc aaa gca ccg cct ttg caa caa ctt ctg gat cag tac gat        288
Leu Leu Pro Lys Ala Pro Pro Leu Gln Gln Leu Leu Asp Gln Tyr Asp
                     85                  90                  95

gtt tta gga gat gac agt aag gat gga gct gtg gaa gag gac gat gaa        336
Val Leu Gly Asp Asp Ser Lys Asp Gly Ala Val Glu Glu Asp Asp Glu
                100                 105                 110

cat gcc acc aca gag acc atc atg acc atg gcc aca gaa cct gac ccc        384
His Ala Thr Thr Glu Thr Ile Met Thr Met Ala Thr Glu Pro Asp Pro
        115                 120                 125

att gtt caa gta gat cgg aaa ccg aag tgt tgc ttt ttc tcc ttc agt        432
Ile Val Gln Val Asp Arg Lys Pro Lys Cys Cys Phe Phe Ser Phe Ser
        130                 135                 140

ccg aag atc caa gcg aac cgg atc gta aga gcg cag ctc tgg gtt cat        480
Pro Lys Ile Gln Ala Asn Arg Ile Val Arg Ala Gln Leu Trp Val His
145                 150                 155                 160

ctg aga ccg gcg gag gag gcg acc acc gtc ttc tta cag ata tct cgg        528
Leu Arg Pro Ala Glu Glu Ala Thr Thr Val Phe Leu Gln Ile Ser Arg
                165                 170                 175

ctg atg ccc gtt aag gac gga gga aga cac cga ata cga tcc ctg aaa        576
Leu Met Pro Val Lys Asp Gly Gly Arg His Arg Ile Arg Ser Leu Lys
                180                 185                 190

atc gac gtg aac gca gga gtc acg tct tgg cag agt ata gac gta aag        624
Ile Asp Val Asn Ala Gly Val Thr Ser Trp Gln Ser Ile Asp Val Lys
            195                 200                 205

cag gtg ctc acg gtg tgg tta aaa caa ccg gag acc aac cga ggc atc        672
Gln Val Leu Thr Val Trp Leu Lys Gln Pro Glu Thr Asn Arg Gly Ile
        210                 215                 220

gag att aac gca tat gac gcg aag gga aac gac ttg gcc gtc act tca        720
Glu Ile Asn Ala Tyr Asp Ala Lys Gly Asn Asp Leu Ala Val Thr Ser
225                 230                 235                 240

acc gag act ggg gag gat gga ctg ctc ccc ttt atg gag gtg aaa ata        768
Thr Glu Thr Gly Glu Asp Gly Leu Leu Pro Phe Met Glu Val Lys Ile
                245                 250                 255

tca gag ggc cca aaa cga atc cgg agg gac tcc gga ctg gac tgc gat        816
Ser Glu Gly Pro Lys Arg Ile Arg Arg Asp Ser Gly Leu Asp Cys Asp
                260                 265                 270

gag aat tcc tca gag tct cgc tgc tgc agg tac cct ctc act gtg gac        864
Glu Asn Ser Ser Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr Val Asp
                275                 280                 285
```

```
ttc gag gac ttt ggc tgg gac tgg att att gct cca aaa cgc tat aag        912
Phe Glu Asp Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg Tyr Lys
    290             295             300

gcg aat tac tgt tca gga gaa tgc gac tac atg tac ctg cag aag tat        960
Ala Asn Tyr Cys Ser Gly Glu Cys Asp Tyr Met Tyr Leu Gln Lys Tyr
305             310             315             320

ccc cac acc cat ctg gtg aac aag gcc agt ccg aga gga acg gct ggg       1008
Pro His Thr His Leu Val Asn Lys Ala Ser Pro Arg Gly Thr Ala Gly
                325             330             335

ccc tgc tgc act ccc acc aag atg tct ccc atc aac atg ctt tac ttt       1056
Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu Tyr Phe
            340             345             350

aac ggc aaa gag cag atc atc tac ggc aag atc cct tcg atg gta gta       1104
Asn Gly Lys Glu Gln Ile Ile Tyr Gly Lys Ile Pro Ser Met Val Val
    355             360             365

gac cgc tgt ggc tgc tca tga                                           1125
Asp Arg Cys Gly Cys Ser
    370
```

<210> 20
<211> 374
<212> PRT
<213> Danio rerio

<400> 20

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Met His Phe Thr Gln Val Leu Ile Ser Leu Ser Val Leu Ile Ala Cys
1               5               10              15
Gly Pro Val Gly Tyr Gly Asp Ile Thr Ala His Gln Gln Pro Ser Thr
            20              25              30
Ala Thr Glu Glu Ser Glu Leu Cys Ser Thr Cys Glu Phe Arg Gln His
        35              40              45
Ser Lys Leu Met Arg Leu His Ala Ile Lys Ser Gln Ile Leu Ser Lys
    50              55              60
Leu Arg Leu Lys Gln Ala Pro Asn Ile Ser Arg Asp Val Val Lys Gln
65              70              75              80
Leu Leu Pro Lys Ala Pro Pro Leu Gln Gln Leu Leu Asp Gln Tyr Asp
                85              90              95
Val Leu Gly Asp Asp Ser Lys Asp Gly Ala Val Glu Glu Asp Asp Glu
            100             105             110
His Ala Thr Thr Glu Thr Ile Met Thr Met Ala Thr Glu Pro Asp Pro
        115             120             125
Ile Val Gln Val Asp Arg Lys Pro Lys Cys Cys Phe Phe Ser Phe Ser
    130             135             140
Pro Lys Ile Gln Ala Asn Arg Ile Val Arg Ala Gln Leu Trp Val His
145             150             155             160
Leu Arg Pro Ala Glu Glu Ala Thr Thr Val Phe Leu Gln Ile Ser Arg
                165             170             175
Leu Met Pro Val Lys Asp Gly Gly Arg His Arg Ile Arg Ser Leu Lys
            180             185             190
Ile Asp Val Asn Ala Gly Val Thr Ser Trp Gln Ser Ile Asp Val Lys
        195             200             205
Gln Val Leu Thr Val Trp Leu Lys Gln Pro Glu Thr Asn Arg Gly Ile
    210             215             220
```

```
Glu Ile Asn Ala Tyr Asp Ala Lys Gly Asn Asp Leu Ala Val Thr Ser
225             230             235             240
Thr Glu Thr Gly Glu Asp Gly Leu Leu Pro Phe Met Glu Val Lys Ile
            245             250             255
Ser Glu Gly Pro Lys Arg Ile Arg Arg Asp Ser Gly Leu Asp Cys Asp
            260             265             270
Glu Asn Ser Ser Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr Val Asp
        275             280             285
Phe Glu Asp Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg Tyr Lys
    290             295             300
Ala Asn Tyr Cys Ser Gly Glu Cys Asp Tyr Met Tyr Leu Gln Lys Tyr
305             310             315             320
Pro His Thr His Leu Val Asn Lys Ala Ser Pro Arg Gly Thr Ala Gly
            325             330             335
Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu Tyr Phe
            340             345             350
Asn Gly Lys Glu Gln Ile Ile Tyr Gly Lys Ile Pro Ser Met Val Val
            355             360             365
Asp Arg Cys Gly Cys Ser
    370
```

<210> 21
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> proteolytic cleavage site

<221> VARIANT
<222> (0)...(0)
<223> Xaa = Any Amino Acid

<400> 21
Arg Xaa Xaa Arg
1

<210> 22
<211> 4
<212> PRT
<213> Eukaryotes

<220>
<221> SITE
<222> (0)...(0)
<223> proteolytic processing site

<400> 22
Arg Ser Arg Arg
1

<210> 23
<211> 4
<212> PRT
<213> Eukaryotes

<220>
<221> SITE
<222> (0)...(0)
<223> proteolytic processing site

<400> 23
Arg Ile Arg Arg
 1

<210> 24
<211> 1393
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (54)...(1274)
<223> GDF-11

<400> 24
ccgcgggact ccggcgtccc cgcccccag tcctccctcc cctcccctcc agc atg   56
                                                          Met
                                                          1

gtg ctc gcg gcc ccg ctg ctg ctg ggc ttc ctg ctc ctc gcc ctg gag   104
Val Leu Ala Ala Pro Leu Leu Leu Gly Phe Leu Leu Leu Ala Leu Glu
             5   10   15

ctg cgg ccc cgg ggg gag gcg gcc gag ggc ccc gcg gcg gcg gcg gcg   152
Leu Arg Pro Arg Gly Glu Ala Ala Glu Gly Pro Ala Ala Ala Ala Ala
         20   25   30

gcg gcg gcg gcg gcg gca gcg gcg ggg gtc ggg ggg gag cgc tcc agc   200
Ala Ala Ala Ala Ala Ala Ala Ala Gly Val Gly Gly Glu Arg Ser Ser
         35   40   45

cgg cca gcc ccg tcc gtg gcg ccc gag ccg gac ggc tgc ccc gtg tgc   248
Arg Pro Ala Pro Ser Val Ala Pro Glu Pro Asp Gly Cys Pro Val Cys
 50   55   60   65

gtt tgg cgg cag cac agc cgc gag ctg cgc cta gag agc atc aag tcg   296
Val Trp Arg Gln His Ser Arg Glu Leu Arg Leu Glu Ser Ile Lys Ser
                     70   75   80

cag atc ttg agc aaa ctg cgg ctc aag gag gcg ccc aac atc agc cgc   344
Gln Ile Leu Ser Lys Leu Arg Leu Lys Glu Ala Pro Asn Ile Ser Arg
                 85   90   95

gag gtg gtg aag cag ctg ctg ccc aag gcg ccg ccg ctg cag cag atc   392
Glu Val Val Lys Gln Leu Leu Pro Lys Ala Pro Pro Leu Gln Gln Ile
             100   105   110

ctg gac cta cac gac ttc cag ggc gac gcg ctg cag ccc gag gac ttc   440
Leu Asp Leu His Asp Phe Gln Gly Asp Ala Leu Gln Pro Glu Asp Phe
         115   120   125

ctg gag gag gac gag tac cac gcc acc acc gag acc gtc att agc atg   488
Leu Glu Glu Asp Glu Tyr His Ala Thr Thr Glu Thr Val Ile Ser Met
130   135   140   145

gcc cag gag acg gac cca gca gta cag aca gat ggc agc cct ctc tgc   536
Ala Gln Glu Thr Asp Pro Ala Val Gln Thr Asp Gly Ser Pro Leu Cys
                 150   155   160

```
tgc cat ttt cac ttc agc ccc aag gtg atg ttc aca aag gta ctg aag     584
Cys His Phe His Phe Ser Pro Lys Val Met Phe Thr Lys Val Leu Lys
        165             170             175

gcc cag ctg tgg gtg tac cta cgg cct gta ccc cgc cca gcc aca gtc     632
Ala Gln Leu Trp Val Tyr Leu Arg Pro Val Pro Arg Pro Ala Thr Val
        180             185             190

tac ctg cag atc ttg cga cta aaa ccc cta act ggg gaa ggg acc gca     680
Tyr Leu Gln Ile Leu Arg Leu Lys Pro Leu Thr Gly Glu Gly Thr Ala
        195             200             205

ggg gga ggg ggc gga ggc cgg cgt cac atc cgt atc cgc tca ctg aag     728
Gly Gly Gly Gly Gly Gly Arg Arg His Ile Arg Ile Arg Ser Leu Lys
210             215             220             225

att gag ctg cac tca cgc tca ggc cat tgg cag agc atc gac ttc aag     776
Ile Glu Leu His Ser Arg Ser Gly His Trp Gln Ser Ile Asp Phe Lys
            230             235             240

caa gtg cta cac agc tgg ttc cgc cag cca cag agc aac tgg ggc atc     824
Gln Val Leu His Ser Trp Phe Arg Gln Pro Gln Ser Asn Trp Gly Ile
        245             250             255

gag atc aac gcc ttt gat ccc agt ggc aca gac ctg gct gtc acc tcc     872
Glu Ile Asn Ala Phe Asp Pro Ser Gly Thr Asp Leu Ala Val Thr Ser
        260             265             270

ctg ggg ccg gga gcc gag ggg ctg cat cca ttc atg gag ctt cga gtc     920
Leu Gly Pro Gly Ala Glu Gly Leu His Pro Phe Met Glu Leu Arg Val
        275             280             285

cta gag aac aca aaa cgt tcc cgg cgg aac ctg ggt ctg gac tgc gac     968
Leu Glu Asn Thr Lys Arg Ser Arg Arg Asn Leu Gly Leu Asp Cys Asp
290             295             300             305

gag cac tca agc gag tcc cgc tgc tgc cga tat ccc ctc aca gtg gac    1016
Glu His Ser Ser Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr Val Asp
            310             315             320

ttt gag gct ttc ggc tgg gac tgg atc atc gca cct aag cgc tac aag    1064
Phe Glu Ala Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg Tyr Lys
        325             330             335

gcc aac tac tgc tcc ggc cag tgc gag tac atg ttc atg caa aaa tat    1112
Ala Asn Tyr Cys Ser Gly Gln Cys Glu Tyr Met Phe Met Gln Lys Tyr
        340             345             350

ccg cat acc cat ttg gtg cag cag gcc aat cca aga ggc tct gct ggg    1160
Pro His Thr His Leu Val Gln Gln Ala Asn Pro Arg Gly Ser Ala Gly
        355             360             365

ccc tgt tgt acc ccc acc aag atg tcc cca atc aac atg ctc tac ttc    1208
Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu Tyr Phe
370             375             380             385

aat gac aag cag cag att atc tac ggc aag atc cct ggc atg gtg gtg    1256
Asn Asp Lys Gln Gln Ile Ile Tyr Gly Lys Ile Pro Gly Met Val Val
            390             395             400
```

```
gat cgc tgt ggc tgc tct taagtgggtc actacaagct gctggagcaa          1304
Asp Arg Cys Gly Cys Ser
            405


agacttggtg ggtgggtaac ttaacctctt cacagaggat aaaaaatgct tgtgagtatg   1364
acagaaggga ataaacaggc ttaaagggt                                     1393
```

<210> 25
<211> 407
<212> PRT
<213> Homo sapiens

<400> 25

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Met Val Leu Ala Ala Pro Leu Leu Leu Gly Phe Leu Leu Leu Ala Leu
  1               5                  10                  15
Glu Leu Arg Pro Arg Gly Glu Ala Ala Glu Gly Pro Ala Ala Ala Ala
              20                  25                  30
Ala Ala Ala Ala Ala Ala Ala Ala Ala Gly Val Gly Gly Glu Arg Ser
              35                  40                  45
Ser Arg Pro Ala Pro Ser Val Ala Pro Glu Pro Asp Gly Cys Pro Val
          50                  55                  60
Cys Val Trp Arg Gln His Ser Arg Glu Leu Arg Leu Glu Ser Ile Lys
65                  70                  75                  80
Ser Gln Ile Leu Ser Lys Leu Arg Leu Lys Glu Ala Pro Asn Ile Ser
                  85                  90                  95
Arg Glu Val Val Lys Gln Leu Leu Pro Lys Ala Pro Pro Leu Gln Gln
              100                 105                 110
Ile Leu Asp Leu His Asp Phe Gln Gly Asp Ala Leu Gln Pro Glu Asp
          115                 120                 125
Phe Leu Glu Glu Asp Glu Tyr His Ala Thr Thr Glu Thr Val Ile Ser
          130                 135                 140
Met Ala Gln Glu Thr Asp Pro Ala Val Gln Thr Asp Gly Ser Pro Leu
145                 150                 155                 160
Cys Cys His Phe His Phe Ser Pro Lys Val Met Phe Thr Lys Val Leu
                  165                 170                 175
Lys Ala Gln Leu Trp Val Tyr Leu Arg Pro Val Pro Arg Pro Ala Thr
              180                 185                 190
Val Tyr Leu Gln Ile Leu Arg Leu Lys Pro Leu Thr Gly Glu Gly Thr
          195                 200                 205
Ala Gly Gly Gly Gly Gly Arg Arg His Ile Arg Ile Arg Ser Leu
    210                 215                 220
Lys Ile Glu Leu His Ser Arg Ser Gly His Trp Gln Ser Ile Asp Phe
225                 230                 235                 240
Lys Gln Val Leu His Ser Trp Phe Arg Gln Pro Gln Ser Asn Trp Gly
                  245                 250                 255
Ile Glu Ile Asn Ala Phe Asp Pro Ser Gly Thr Asp Leu Ala Val Thr
              260                 265                 270
Ser Leu Gly Pro Gly Ala Glu Gly Leu His Pro Phe Met Glu Leu Arg
          275                 280                 285
Val Leu Glu Asn Thr Lys Arg Ser Arg Arg Asn Leu Gly Leu Asp Cys
      290                 295                 300
Asp Glu His Ser Ser Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr Val
305                 310                 315                 320
Asp Phe Glu Ala Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg Tyr
              325                 330                 335
Lys Ala Asn Tyr Cys Ser Gly Gln Cys Glu Tyr Met Phe Met Gln Lys
              340                 345                 350
Tyr Pro His Thr His Leu Val Gln Gln Ala Asn Pro Arg Gly Ser Ala
          355                 360                 365
Gly Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu Tyr
```

```
        370                    375                    380
Phe Asn Asp Lys Gln Gln Ile Ile Tyr Gly Lys Ile Pro Gly Met Val
385                    390         395                    400
Val Asp Arg Cys Gly Cys Ser
                    405
```

<210> 26
<211> 476
<212> DNA
<213> Salmon-1

<220>
<221> CDS
<222> (3)...(473)

<400> 26

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gg cag ccg gag acg aat tgg ggg atc gag att aat gcg ttc gac tcg        47
   Gln Pro Glu Thr Asn Trp Gly Ile Glu Ile Asn Ala Phe Asp Ser
    1               5                  10                   15

aag gga aat gat ctg gcc gtt acc tca gca gaa gcg gga gaa gga ctg        95
Lys Gly Asn Asp Leu Ala Val Thr Ser Ala Glu Ala Gly Glu Gly Leu
                20              25              30

caa ccc ttc atg gag gtg acg att tca gag ggc ccg aag cgc tcc agg       143
Gln Pro Phe Met Glu Val Thr Ile Ser Glu Gly Pro Lys Arg Ser Arg
                35              40              45

aga gac tcg ggc ctg gac tgt gac gag aac tcc ccc gag tcc cgc tgt       191
Arg Asp Ser Gly Leu Asp Cys Asp Glu Asn Ser Pro Glu Ser Arg Cys
            50              55              60

tgc cgc tac ccc ctc acg gta gac ttt gaa gac ttt ggc tgg gac tgg       239
Cys Arg Tyr Pro Leu Thr Val Asp Phe Glu Asp Phe Gly Trp Asp Trp
        65              70              75

att att gcc ccc aag cgc tac aag gcc aac tac tgc tct ggt gag tgt       287
Ile Ile Ala Pro Lys Arg Tyr Lys Ala Asn Tyr Cys Ser Gly Glu Cys
80              85              90                   95

gag tac atg cac ctg cag aag tac ccc cac acc cac ctg gtg aac aag       335
Glu Tyr Met His Leu Gln Lys Tyr Pro His Thr His Leu Val Asn Lys
                100             105             110

gct aac cct cgc ggc acc gca ggg ccc tgc tgc acc ccc acc aag atg       383
Ala Asn Pro Arg Gly Thr Ala Gly Pro Cys Cys Thr Pro Thr Lys Met
                115             120             125

tcc ccc atc aac atg ctc tac ttc aac cgc aaa gag cag atc atc tac       431
Ser Pro Ile Asn Met Leu Tyr Phe Asn Arg Lys Glu Gln Ile Ile Tyr
                130             135             140

ggc aag atc ccc tcc atg gtg gtg gac cgt tgc gga tgc tcg              473
Gly Lys Ile Pro Ser Met Val Val Asp Arg Cys Gly Cys Ser
                145             150             155

tga                                                                 476
```

<210> 27
<211> 157

<212> PRT
<213> Salmon-1

<400> 27

Gln	Pro	Glu	Thr	Asn	Trp	Gly	Ile	Glu	Ile	Asn	Ala	Phe	Asp	Ser	Lys

```
Gln Pro Glu Thr Asn Trp Gly Ile Glu Ile Asn Ala Phe Asp Ser Lys
1               5                   10                  15
Gly Asn Asp Leu Ala Val Thr Ser Ala Glu Ala Gly Glu Gly Leu Gln
            20                  25                  30
Pro Phe Met Glu Val Thr Ile Ser Glu Gly Pro Lys Arg Ser Arg Arg
        35                  40                  45
Asp Ser Gly Leu Asp Cys Asp Glu Asn Ser Pro Glu Ser Arg Cys Cys
        50                  55                  60
Arg Tyr Pro Leu Thr Val Asp Phe Glu Asp Phe Gly Trp Asp Trp Ile
65                  70                  75                  80
Ile Ala Pro Lys Arg Tyr Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu
                85                  90                  95
Tyr Met His Leu Gln Lys Tyr Pro His Thr His Leu Val Asn Lys Ala
            100                 105                 110
Asn Pro Arg Gly Thr Ala Gly Pro Cys Cys Thr Pro Thr Lys Met Ser
            115                 120                 125
Pro Ile Asn Met Leu Tyr Phe Asn Arg Lys Glu Gln Ile Ile Tyr Gly
        130                 135                 140
Lys Ile Pro Ser Met Val Val Asp Arg Cys Gly Cys Ser
145                 150                 155   )
```

<210> 28
<211> 412
<212> DNA
<213> Salmon-2

<220>
<221> CDS
<222> (2)...(409)

<400> 28

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g gtt acc tca act gaa gcc gga gaa gga ctg caa ccc ttc atg gag gtg        49
  Val Thr Ser Thr Glu Ala Gly Glu Gly Leu Gln Pro Phe Met Glu Val
    1               5                   10                  15


aag att tcg gag ggc ccg aag cgc tcc agg aga gat tcg ggc ctg gac        97
Lys Ile Ser Glu Gly Pro Lys Arg Ser Arg Arg Asp Ser Gly Leu Asp
            20                  25                  30


tgt gat gag aac tcc ccc gag tcc cgc tgc tgc cgg tac ccc ctc acg       145
Cys Asp Glu Asn Ser Pro Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr
        35                  40                  45


gtg gac ttt gaa gac ttt ggc tgg gac tgg att att gcc ccc aag cgc       193
Val Asp Phe Glu Asp Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg
        50                  55                  60


tac aag gcc aac tac tgc tct ggt gag tgc gag tac atg cac ctg cag       241
Tyr Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu Tyr Met His Leu Gln
65                  70                  75                  80


aag tac ccc cac acc cac ctg gtg aac aag gct aac cct cgc ggc acc       289
Lys Tyr Pro His Thr His Leu Val Asn Lys Ala Asn Pro Arg Gly Thr
                85                  90                  95


gcg ggg ccc tgc tgc acc ccc acc aag atg tcc ccc atc aac atg ctc       337
```

Ala Gly Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu
            100   105   110

tac ttc aac cgc aaa gag cag atc atc tac ggc aag atc ccc tcc atg   385
Tyr Phe Asn Arg Lys Glu Gln Ile Ile Tyr Gly Lys Ile Pro Ser Met
            115   120   125

gtg gtg gac cgc tgc ggc tgc tcg tga   412
Val Val Asp Arg Cys Gly Cys Ser
            130   135

<210> 29
<211> 136
<212> PRT
<213> Salmon-2

<400> 29
Val Thr Ser Thr Glu Ala Gly Glu Gly Leu Gln Pro Phe Met Glu Val
  1   5   10   15
Lys Ile Ser Glu Gly Pro Lys Arg Ser Arg Arg Asp Ser Gly Leu Asp
            20   25   30
Cys Asp Glu Asn Ser Pro Glu Ser Arg Cys Cys Arg Tyr Pro Leu Thr
            35   40   45
Val Asp Phe Glu Asp Phe Gly Trp Asp Trp Ile Ile Ala Pro Lys Arg
        50   55   60
Tyr Lys Ala Asn Tyr Cys Ser Gly Glu Cys Glu Tyr Met His Leu Gln
65   70   75   ·80
Lys Tyr Pro His Thr His Leu Val Asn Lys Ala Asn Pro Arg Gly Thr
                85   90   95
Ala Gly Pro Cys Cys Thr Pro Thr Lys Met Ser Pro Ile Asn Met Leu
            100   105   110
Tyr Phe Asn Arg Lys Glu Gln Ile Ile Tyr Gly Lys Ile Pro Ser Met
            115   120   125
Val Val Asp Arg Cys Gly Cys Ser
            130   135